Sure! Here is the complete set of commands including the creation of the database, adding the games collection, and all necessary queries:

**Step 1: Create the Database GameDB**

Code:

use GameDB

* **Explanation**: This command creates and switches to the GameDB database.

**Step 2: Create the games Collection and Add 5 Games**

1. **Insert sample game data into the games collection**:

Code:

db.games.insertMany([

{ name: "Game A", gametype: "Action", rating: 85 },

{ name: "Game B", gametype: "Adventure", rating: 92 },

{ name: "Game C", gametype: "Puzzle", rating: 75 },

{ name: "Game D", gametype: "Strategy", rating: 88 },

{ name: "Game E", gametype: "RPG", rating: 95 }

])

* + **Explanation**: This command adds five games to the games collection with the specified properties: name, gametype, and rating.

**Step 3: Queries to Retrieve Data**

1. **Return all the games**:

Code:

db.games.find().pretty()

* + **Explanation**: This command retrieves and formats all game documents from the games collection.

1. **Return the 3 highest-rated games**:

Code:

db.games.find().sort({ rating: -1 }).limit(3)

* + **Explanation**: Sorts the games in descending order by rating and limits the output to the top 3 games.

**Step 4: Update Games with Achievements**

1. **Update two favorite games to add achievements**:

Code:

db.games.updateOne(

{ name: "Game B" },

{ $set: { achievements: ["Game Master", "Speed Demon"] } }

)

db.games.updateOne(

{ name: "Game E" },

{ $set: { achievements: ["Game Master", "Speed Demon"] } }

)

* + **Explanation**: This command adds the achievements array with "Game Master" and "Speed Demon" to two selected games, Game B and Game E.

**Step 5: Queries to Filter by Achievements**

1. **Return all games with both "Game Master" and "Speed Demon" achievements**:

code:

db.games.find({ achievements: { $all: ["Game Master", "Speed Demon"] } }).pretty()

* + **Explanation**: The $all operator ensures the query only returns games that contain both specified achievements.

1. **Return only games that have achievements**:

Code:

db.games.find({ achievements: { $exists: true } }).pretty()

* + **Explanation**: The $exists operator checks if the achievements field is present in the game documents.

**Summary**

1. **Database**: Created GameDB database.
2. **Collection**: Created games collection with sample game data.
3. **Queries**: Retrieved all games, filtered top-rated games, and filtered based on achievements.
4. **Updates**: Added achievements to specific games and checked for games with achievements.

You can run these commands in a MongoDB shell to create and manage the games collection effectively.