Sorting Assignment

1. **Student Grades Sorting:**
   - **Problem Statement:** Given an array of student records where each record contains the student's name and their grade, sort the students in descending order of their grades. If two students have the same grade, sort them alphabetically by their names.
   - **Example Input:** `{{"John", 85}, {"Alice", 95}, {"Bob", 75}, {"Charlie", 85}}`
   - **Example Output:** `{{"Alice", 95}, {"Charlie", 85}, {"John", 85}, {"Bob", 75}}`

2. **Event Scheduling:**
   - **Problem Statement:** Given an array of events where each event has a start time and an end time, sort the events by their start time. If two events start at the same time, sort them by their end time.
   - **Example Input:** `{{"Meeting", "10:00", "11:00"}, {"Workshop", "09:00", "10:30"}, {"Lunch", "12:00", "13:00"}, {"Briefing", "09:00", "09:30"}}`
   - **Example Output:** `{{"Briefing", "09:00", "09:30"}, {"Workshop", "09:00", "10:30"}, {"Meeting", "10:00", "11:00"}, {"Lunch", "12:00", "13:00"}}`

3. **E-commerce Product Sorting:**
   - **Problem Statement:** Given an array of products in an e-commerce store where each product has a name, price, and rating, sort the products by price in ascending order. If two products have the same price, sort them by rating in descending order.
   - **Example Input:** `{{"Laptop", 1000, 4.5}, {"Phone", 500, 4.7}, {"Tablet", 500, 4.3}, {"Monitor", 200, 4.0}}`
   - **Example Output:** `{{"Monitor", 200, 4.0}, {"Phone", 500, 4.7}, {"Tablet", 500, 4.3}, {"Laptop", 1000, 4.5}}`

4. **Library Book Sorting:**
   - **Problem Statement:** Given an array of books where each book has a title and publication year, sort the books by their publication year in ascending order. If two books have the same publication year, sort them alphabetically by their titles.
   - **Example Input:** `{{"1984", 1949}, {"To Kill a Mockingbird", 1960}, {"The Great Gatsby", 1925}, {"Brave New World", 1932}}`
   - **Example Output:** `{{"The Great Gatsby", 1925}, {"Brave New World", 1932}, {"1984", 1949}, {"To Kill a Mockingbird", 1960}}`

5. **Employee Records Sorting:**
    - **Problem Statement:** Given an array of employee records where each record contains the employee's name, department, and salary, sort the employees by their department alphabetically. Within each department, sort the employees by their salary in descending order.
    - **Example Input:** `{{"Alice", "HR", 70000}, {"Bob", "Engineering", 80000}, {"Charlie", "HR", 75000}, {"David", "Engineering", 90000}}`
    - **Example Output:** `{{"Charlie", "HR", 75000}, {"Alice", "HR", 70000}, {"David", "Engineering", 90000}, {"Bob", "Engineering", 80000}}`