Practical 2b - Relational Algebra

The following relational schema of a Web forum is given:

- **Thread** \( \text{threadID, subject, userID, nickname} \)
- **Message** \( \text{messageID, subject, text, time, threadID, userID, replyMessageID} \)
- **User** \( \text{userID, nickname, name, interests} \)
- **Group** \( \text{groupID, groupname, description} \)
- **Membership** \( \text{groupID, userID, role} \)

4. Relational Algebra

Write the following queries in Relational Algebra, if possible:

1. All messages by the user “elwood”?
2. Who are the administrators of the group “zanzibar”?
3. All messages of the thread “New Neil Young album out!”?
4. All messages of the thread “New Ron Sexsmith album out!” in chronological order?
5. All threads created by users from the group called “kiddies”?
6. What are the replies to a message about “5-legged elephant for sale” (direct replies, indirect replies)?
7. Which users have never posted a message?
8. On which days in 2006 were there no messages at all?