

COMP 5/6120 Database Systems I

Fall 2011

Homework #3

Due: 11/17/2011 (at the beginning of lecture)

1. Answer the following questions about files and indexes:
 - a. What alternatives are available for the data entries in an index?
 - b. What is the difference between a primary index and a secondary index? What is a duplicate data entry in an index? Can a primary index contain duplicates?
 - c. What is the difference between a clustered index and an unclustered index? If an index contains data records as 'data entries', can it be unclustered?
 - d. How many clustered indexes can you create on a file? Would you always create at least one clustered index for a file?
2. Explain the terms seek time, rotational delay, and transfer time.
3. What is sequential flooding of the buffer pool?
4. Describe two possible record formats. What are the trade-offs between them?
5. Why do frames in the buffer pool have a pin count instead of a pin flag?