CS186 Week 11 - Discussion Worksheet

What does it mean to use a STEAL buffer management policy? What are the risks? What are the benefits?

Consider the schedule of transaction operations shown below. Do they conform to a STEAL or NO STEAL buffer management policy? FORCE or NO FORCE? Explain your choices.

Timestamp	Operation
10	XID 102 updates p6 (in memory)
20	XID 102 updates p7 (in memory)
30	Buffer manager flushes p6 to disk
40	XID 102 updates p8 (in memory)
50	Buffer manager flushes p7 to disk
60	Buffer manager flushes p8 to disk
70	XID 102 commits

Assume we're using write-ahead logging during transaction 102's execution. What log records would be generated by the trace above? By what time must each record be on disk?

What if at timestamp 70, transaction 102 aborted instead of committing? What would the log look like then?

Why do we need the dirty page table? Why do you think we store the <u>first</u> update that dirtied a page in the recLSN, instead of the most recent?