Report of Lab1

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1 Design Decisions

There is few special designs in Lab1. Only that *java.io.RandomAccessFile* is used in *HeapFile.readPage()* for random access.

2 API Changes

I only added some exception types that may be thrown out by certain methods, according to the definitions of these methods. These changes should not affect the outcomes of the tests.

For example, *java.io.RandomAccessFile* may throw an *IOException* if the file does not exist or because of some other reasons. So methods like *HeapFile.readPage()*, *BufferPool.getPage()* (because it may use *HeapFile.readPage()*) and the interface of *HeapFile* (i.e. *DbFile*) may require that *IOException* could be thrown should be explicitly identified.

3 Missing or Incomplete Elements

I temporarily haven't implement TupleDesc.hashCode() because I didn't see any HashMap using it as its key.

4 Time Spent and Difficulties

I roughly spent 8–10 hours on Lab1, about 60% of which is about thinking and trying to comprehending the structure. No significant difficulty has been found so far. But it did take me some time to think about how the pages are arranged in a file and how to read them.