1. Does each I/O from a user or application require an access to a physical persistent storage device? Explain your answer.

No, that would take too long to do and require too many physical I/O accesses. Instead, we use block caches (buffers) in main memory.

2. What is the purpose of an explicit file open()?

We want to pay the overhead of parsing the file name, like checking the initial access permissions, once for a connection-oriented interface with the file. So, we create the per-open data structure. That allows each subsequent read and/or write access to be efficient.

3. Are most files small or large?

Small

4. Are most files used sequentially or randomly?

Sequentially