1. There must be 3 categories of logs - info, error and debug.
2. More categories can be added later.
3. User can print different categories of logs using a single log method
4. Logs should be printed to different sink- console, file, database.
5. More log sinks may also be added later.

Approach:

1. Logger class should be singleton because if multiple threads are present, then duplicate logs may be printed by different threads.
2. Design pattern used for log category- Chain of Responsibility
3. Design pattern used for log sink- Observer pattern.