

Sl No	Exercise	Description	A+	A	B+	B	C	D
1	Priority queue	A priority queue with updatable priority	Yes	Yes	Yes	Yes	Yes	Yes
2	Sorting files	Sorting files of size upto 10 GB within space constraints	Yes	Yes	Yes	Yes	Yes	Yes
3	Modifying files	Modify a linked list / B-tree variant tree in a file within $O(\log(n))$ time	B-/B+ tree	B-/B+ tree	B-/B+ tree	Linked list	Linked list and any balanced search tree	Linked list and any simple tree
4	Filesystem	A simple filesystem concept stored in a binary file of fixed size. Should implement mkdir, copy, del, cat and ls for the same	Yes: With optimization for small or large files	Yes: With optimization for any operation	Yes	Yes: Ex. 4/5	No	No
5	Database	Single database stored in a binary file. Minimal operations required to be implemented are SELECT, FROM, WHERE	Yes: Also req to implement OR, AND, JOIN	Yes: Also req to implement OR, AND	Yes	Yes: Ex. 4/5	No	No