08/24/22. → Smallest unit of data transfer is block.

→ Data is transferred btw disk and main memory in blocks.

→ should a size of a block be smaller (or) bigger?

Ans) It depends on the kind of application (or) the kind of scenarios.

RAID:- (Redundant Arrays of Independent Disks.)

↳ Improves performance.

↳ Reduces Time.

→ OLTP is "write" heavy. Ex:- Banking.

→ OLAP is "Read" heavy. Ex:- Scientific Data.

08/24/22.

Mirroring — It is used for reliability. (write)

Striping — It is used for data transfer speed. (Read)

RAID-Levels:- → (no-mirroring)

level 0 — Block striping; non-redundant.

Level 1 — mirrored disks with block striping.

Level 2 — Memory-style-Error-correcting codes (ECC) with bit striping.

Level 3 — Bit-Interleaved Parity;

Level 4 — Block-Interleaved Parity;

(only time we lose 2 disks, we lose the data)

08/31/22. ⇒ Striping helps improve the speed of Read.

Level-5 — Block-Interleaved Distributed parity;

↳ (anytime, we lose 2 disks, we lose the data)

Level-6 — P+Q Redundancy scheme;

Level 0 < level 1 < level 2 < level 3 < level 4 < level 5 < level 6.

Factors in choosing RAID Level:

→ monetary cost.
→ performance.
→ performance during Failure.
→ performance during Rebuild.

⇒ For writing RAID Level-1 is very important.