RAID Level	Description	Minimum Number of Drives	Fault Tolerance	Storage Efficiency	Performance	Use Cases
RAID 0	Striping	2	None	100%	High read/write performance	High-performance applications where data loss is not critical (e.g., video editing)
RAID 1	Mirroring	2	Can tolerate 1 drive failure	50%	Read performance improved, write performance similar to single drive	Critical data storage where redundancy is important (e.g., OS drives, databases)
RAID 5	Striping with parity	3	Can tolerate 1 drive failure	(N-1)/N	Good read performance, write performance affected by parity calculations	General-purpose storage, file servers, web servers
RAID 6	Striping with double parity	4	Can tolerate 2 drive failures	(N-2)/N	Good read performance, write performance affected by parity calculations	High-availability systems where data protection is critical (e.g., enterprise storage)
RAID 10 (1+0)	Striping and mirroring	4	Can tolerate up to 1 drive failure per mirrored pair	50%	High read/write performance	High-performance and high-availability systems
RAID 01 (0+1)	Mirroring and striping	4	Can tolerate up to 1 drive failure per stripe set	50%	High read/write performance	Similar to RAID 10 but less common due to lower fault tolerance
RAID 50 (5+0)	Striping with parity and striping	6	Can tolerate 1 drive failure per RAID 5 array	(N-1)/N	High read/write performance	Large data sets requiring a balance of

RAID Level	Description	Minimum Number of Drives	Fault Tolerance	Storage Efficiency	Performance	Use Cases
						performance and redundancy
RAID 60 (6+0)	Striping with double parity and striping	8	Can tolerate 2 drive failures per RAID 6 array	(N-2)/N	High read/write performance	Enterprise environments requiring high availability and fault tolerance
RAID 2	Bit-level striping with Hamming code parity	3	Can tolerate 1 drive failure	(N-1)/N	Similar to RAID 3	Rarely used due to complexity and limited benefits over other RAID levels
RAID 3	Byte-level striping with dedicated parity	3	Can tolerate 1 drive failure	(N-1)/N	Good sequential read/write performance	Video editing, streaming applications (less common today)
RAID 4	Block-level striping with dedicated parity	3	Can tolerate 1 drive failure	(N-1)/N	Similar to RAID 5, but with dedicated parity disk bottleneck	Similar to RAID 5, but less common due to dedicated parity disk bottleneck

Key Points:

- **RAID 0** offers high performance but no fault tolerance.

- **RAID 1** provides excellent redundancy with mirroring but at the cost of storage efficiency.

- **RAID 5** and **RAID 6** offer good balance between performance, storage efficiency, and fault tolerance, but write performance is affected by parity calculations.

- **RAID 10** combines RAID 1 and RAID 0, providing both high performance and fault tolerance but at the cost of storage efficiency.

- **RAID 01** is similar to RAID 10 but less fault-tolerant.

- **RAID 50** and **RAID 60** offer high performance and fault tolerance for large data sets but require more drives.

- **RAID 2**, **RAID 3**, and **RAID 4** are rarely used due to their complexity and limited advantages over other RAID levels.