What some RAID levels?

- RAID 0: RAID 0 sacrifices fault tolerance for raw speed. It doesn't store parity information, but with its small stripes, it can work with large files much faster than any other RAID. Because it is not fault tolerant, RAID 0 is inappropriate for the storage of critical data.

- RAID 1: RAID 1, also known as disk mirroring, makes use of neither striping nor parity information. Instead, each RAID 1 array consists of two disks that duplicate each other's data and are treated as one drive. A computer can read from both disks and thus access data faster. However, because the entire contents of a disk are duplicated, RAID 1 uses space less efficiently than RAID levels that store parity information.

- RAID 2: In RAID 2, some drives are striped while others hold error checking and correcting (ECC) data. Because nearly all modern drives have ECC built-in, RAID 2 is infrequently implemented.

- RAID 3: In RAID 3, all but one of the drives in the array are striped. The final disk is devoted to the storage of parity information. RAID 3 stripes are small, so all the disks work together when reading and writing large files. This greatly increases performance, but as each task accesses all the disks, it is not possible to overlap I/O (i.e., do two tasks at the same time). For this reason, RAID 3 is inappropriate for multi-user environments.

- RAID 4: RAID 4 is identical to RAID 3, except that it uses large stripes instead of small ones. Because files usually only span one drive, it is possible to overlap I/O. Unfortunately, because each access must update parity information, the parity drive becomes a bottleneck that increases in severity as the number of drives increases.

- RAID 5: RAID 5 is similar to RAID 4 except that, rather than devoting a single device to parity information, it divides it among all the drives. This eliminates the bottleneck created by RAID 4's parity drive.

- RAID 6: RAID 6 is like RAID 5 except that it adds a second parity scheme. It is slower than RAID 5, but offers greater protection of data.

- RAID 7: RAID 7 is a proprietary solution offered by Storage Computer Corporation. It is a very expensive, high-speed option that relies on caching and an embedded operating system that manages I/O.

- RAID 10: A RAID 10 (i.e., RAID 1+0) array uses several RAID 1 arrays and stripes them to form a single unit. RAID 10 is very fast and highly fault tolerant, but also extremely expensive.

- RAID 53: RAID 53 is similar to RAID 10, but each segment is a RAID 3 array rather than a RAID

1. Like RAID 10, it is fast but expensive.

- RAID 0+1: A RAID 0+1 array is essentially a RAID 1 array built from RAID 0 array units. It offers very fast performance and good fault tolerance, but it is very expensive.