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RAID: RAID stands for Redundant Array of Independent Disks. It is a disk management system used inside of hard disks. This system ensures speedy read/write operations and impressive fault tolerance in hard disks.

Initially RAID was used only in high performance systems like servers, mainframes and supercomputers, but today it has become a standard and all leading HDD manufacturers follow its guidelines. Today every PC that we use is equipped with RAID.

Depending upon different purposes to achieve, RAID has been categorized in different levels. These levels though range from LEVEL 0 to LEVEL 10 but the mostly used are given here:

- LEVEL 0   -   Stripping
- LEVEL 1   -   Mirroring
- LEVEL 5   -   Stripping with parity
- LEVEL 6   -   Stripping with dual parity
- LEVEL 10   -   Mirroring and Stripping

RAID LEVEL 0: This level divides the blocks among the disks. The block in one disk is not in the other and vice versa. This alternation is called stripping here.

RAID LEVEL 1: This level does not divide the block among the disks. The blocks are available on all the disks. This replication is called mirroring.

RAID LEVEL 5: This level divides the blocks among the disks (LEVEL 0). Along with that every disk has a parity block for fault tolerance.

RAID LEVEL 6: This level divides the content among the disks (LEVEL 0). Along with that every disk has two parity blocks for fault tolerance.

RAID LEVEL 10: This level is basically a combination of LEVEL 1(Mirroring) and LEVEL 0(Stripping). It uses disks in couples. One couple implements mirroring while the other couple implements stripping.

Assignments:

1. Write a short note on RAID system.
2. What is difference between mirroring and stripping?