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Lab 7: RAID

First I will list the benefits to RAID. RAIDs most basic and obvious advantage in my opinion is the ability to have a back up of your data, like what is done in RAID1. Since the disks are mirrored, if one disk were to fail your data would still be safe on a second disk. In other RAID configurations I/O is improved like in RAID0 where stripping can allow two disks to accomplish a large enough read, thus increasing performance. RAID also allows these two things to be used in tandem like in RAID10 where read times can be significant;y improved and the redundancy allows for up to two disks to fail and still have no data loss.

However RAID also has its shortcoming and drawbacks. In RAID 0, if one drive fails you loose all of your data, which can be a significant blow. And in configurations like RAID1 and RAID4 you end up loosing a disks worth of storage capacity just to keep back ups. Also because these disks are probably stored in the same enclosure, if the environment or human error causes a disk to fail, the other disks have a high chance of also failing, and if you're in a configuration, like RAID4, with many disks replacing them can be extremely costly. Also configurations that mirror or have a parity, writing to the disks can be very expensive.