BOOTING PROCEDURE

* **BIOS:** When we power on the system, bios settings will search for the boot loader program in disk like floppy, hard disks. If it finds it will execute it. If don’t it will show an error “couldn’t find an OS”.
* **MBR (master boot record):** It contains the boot loader (GRUB). It stored in first sector of hard disk with the size of 512 bytes.

**446 bytes = boot loader (GRUB)**

**64 bytes = partition table info**

**2 bytes = mbr validation check.**

* **GRUB (grand unified boot loader):** It loads the kernel images, if you have multiple kernel images, it loads and displays them for a specific period of time as we mentioned in **/boot/grub/grub.conf** file. You can select which kernel you want to load. If you are not selected anything, it will load the default kernel.
* **KERNEL:** It is the heart of the OS. It starts the INIT process which is the parent process of all. It loads initrd image which acts as temporary root file system, until real root file system is mounted.
* **INIT:** Init executes the system to boot into run level as we specified in **/etc/inittab** file.

**0 – SHUTDOWN.**

**1 – SINGLE USER MODE.**

**2 – MULTI USER WITHOUT NFS.**

**3 – FULL MULTI USER MODE.**

**4 – UNUSED.**

**5 – GUI.**

**6 – REBOOT.**

* **RUN LEVEL SCRIPTS:** Based on the run level we selected, the init process executes scripts which are in that specific run level dir.

**/etc/rc.d/rc0/d – run level 0 files contains in this dir.**