Day-1
14 June 2025

This is the day 1 journal or blog of me learning to create my own OS. I'll be updating this document after few steps.

By first, we will be learning to install arch-linux on our VM with 4GiB RAM and 50GiB memory.
Boot the iso --> connect to internet using iwctl or will be connected automatically in VM. --> create partitions --> format the partitions

Create Partitions

1. Use the command *lsblk* to view the device and name the name of ssd (most common as 'vda' on virtual machines and 'sda' normally). So, in our case it's */dev/vda*. And in future after partition, we will see nodes under *vda* as *vda1* and *vda2* and so on. Depending on the number of partitions. So those 1 and 2 are the partition table of *vda*.
2. We will use the tool *fdisk* for traditional style partitions.
3. Enter the interactive menu of *fdisk* by the command – *fdisk /dev/vda*
4. And here are some commands used in this interactive shell:
   m --> Help
   p --> Print partition tables
   n --> New partition
   d --> Delete partition
5. So, we will use these commands one by one to allocate the memory. 512M will be for EFI system and remaining of the space for Linux root.
6. Type *n* and press enter for new table, use default entry for memory size initialization then type +512M for the partion and click enter.
7. Type *p* and press enter to look at the partition we just created. Now repeate the previous step with entry and exit as default to allocate the remaining space to Linux root. I.e 49.5 GiB in our case.
8. Now type the command *lsblk* and you'll see the two partitons of *vda* disk as *vda1* and *vda2* and number denoting their IDs.
9. And at the very end we will enter the command *partprobe /dev/vda* to load the partitions on disk.

Format the partitions

1. We will use fat –32 partitioning for EFI system and ext4 for Linux root. In our case, we have *vda1* as EFI and *vda2* as root.

2. Run the following commands to format the partitions respectfully
3. *mkfs.fat -F32 /dev/vda1*
   mkfs.ext4 /dev/vda2
4. This will format the partitions and we're ready to move onto next step.

Mount the partitions