Install Raspbian on f2fs root

this may be combined with solve raspbian SD card corruption issues with read-only mounted root partition in order to minimize SD card corruption on a raspberry pi or if your raspberry is usually shut down regularily, you might still want to consider this because f2fs was specifically optimized for flash memory storage and supposedly should help to extend the life of such storage devices significantly.

here is a quick step by step howto how i installed raspbian from the minimal image onto an f2fs sd card

1. download image and dd it onto the sd card
2. boot raspberry pi from sd card and expand partition by using `raspi-config`
3. now shut down using the `shutdown`
4. insert sd card again into your pc. from here on, we suppose the sd card is /dev/sdf. in order to find its name on your system, you can use `lsblk`
5. format 2nd partition with f2fs:

   ```
   mkfs.f2fs /dev/sdf2
   ```

6. mount it

   ```
   mkdir /tmp/sd
   mount -t f2fs /dev/sdf2 /tmp/sd/
   ```

7. mount second partition from image (see also mount_a_single_partition_from_a_dd_disk_image):

   ```
   mkdir /tmp/image
   kpartx -av raspbianimage.img
   mount /dev/mapper/loop0p2 /tmp/image
   ```

8. now copy the os to the sd card

   ```
   rsync -aHvx /tmp/image/ /tmp/sd/
   ```

9. edit fstab:

   ```
   nano /tmp/sd/etc/fstab
   ```

   and replace `ext4` in the root mount line with `f2fs`

10. unmount it all again

    ```
    umount /tmp/sd /tmp/image
    ```

11. mount boot partition and edit boot options:

    ```
    mount /dev/sdf1 /tmp/sd
    nano /tmp/sd/cmdline.txt
    ```

    and now replace ext4 with f2fs in here as well.

12. cleanup:

```
umount /tmp/sd
rmdir /tmp/sd /tmp/image
```

13. insert the sd card into your raspberry pi and finally start configuring it :)