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```bash
./os5600-hw3 --cmdline /dev/null

./hw3 <img file> <directory>
disk1.img

cp disk.img tmp.img
```

VFS
- support any file sys.
- varying levels of implementation
- generic caching of objects

```
superblock ops
```

directory traversal:
lookup
revalidate
read dir

Berkeley FFS/Linux ext2/3
downside:
- fragmented reads
- garbage collection.

advantages:
- flash file system
- snapshots

log structure
→ the file system
is the journal

WAFL = write-anywhere.