

Fragment Example

At first it is 5KB and it is 2KB

2. Append A to fd1
`write(fd1, "A");`

Then fd1 is 6 KB

3. Append A to fdd1 again

```
write(fdd1, "A");
```

- Not allowed to use fragments across multiple blocks

✓ Copy old fragments to new block

→ Then find 7KB

B

B

A

A

A

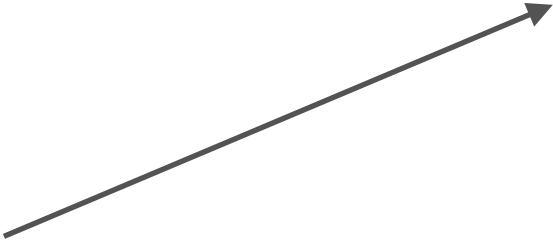
A

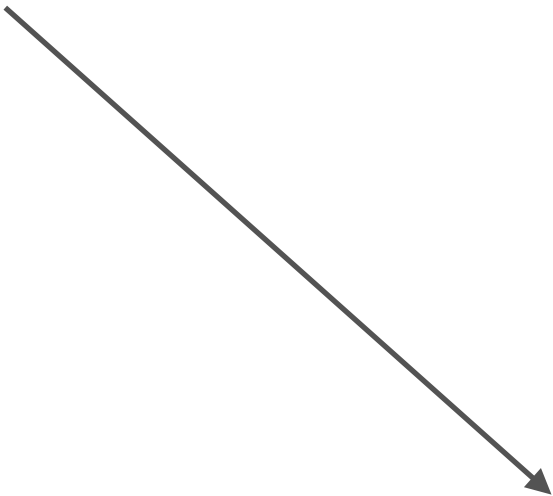


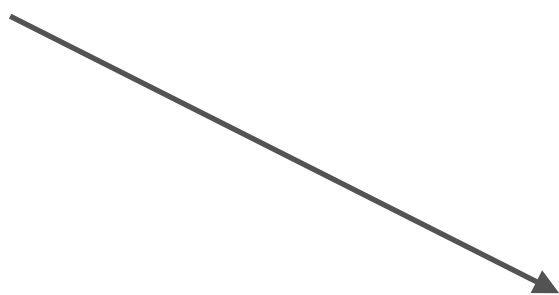
fd1

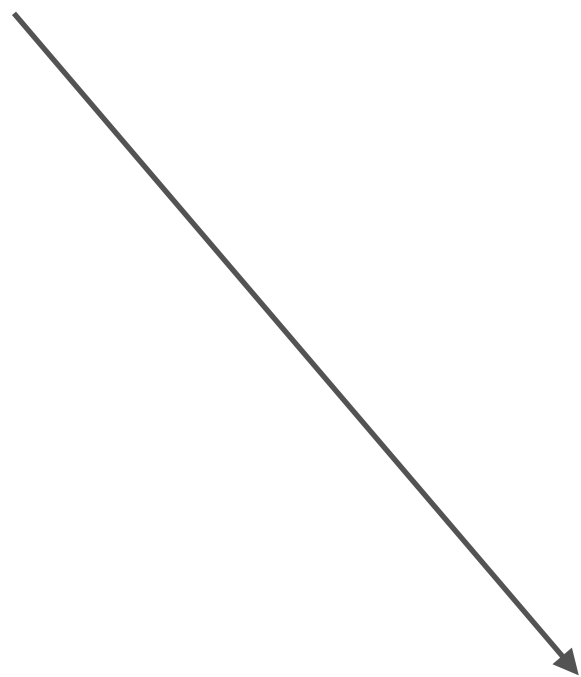
A large, solid orange circle serves as the background for the entire image.

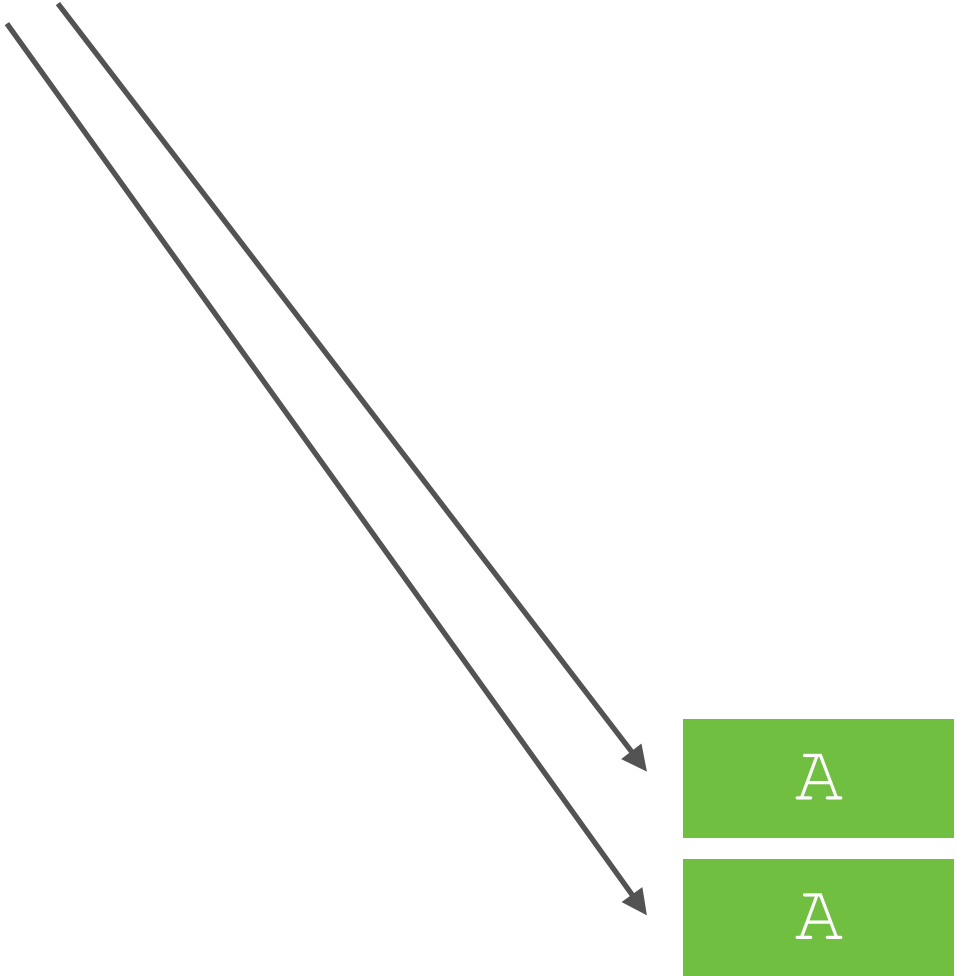
fd2

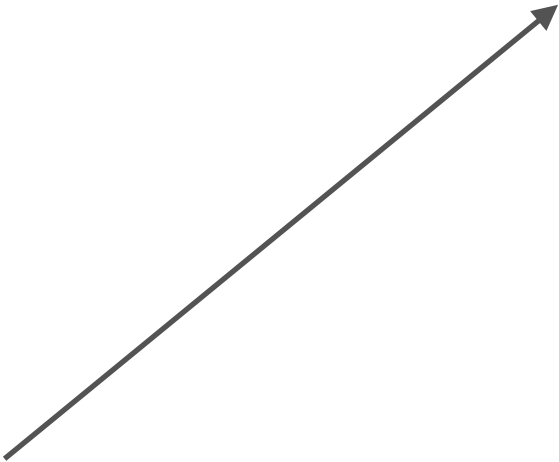


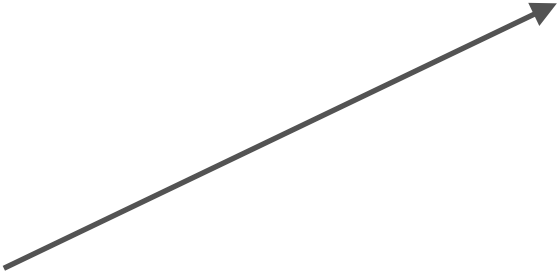












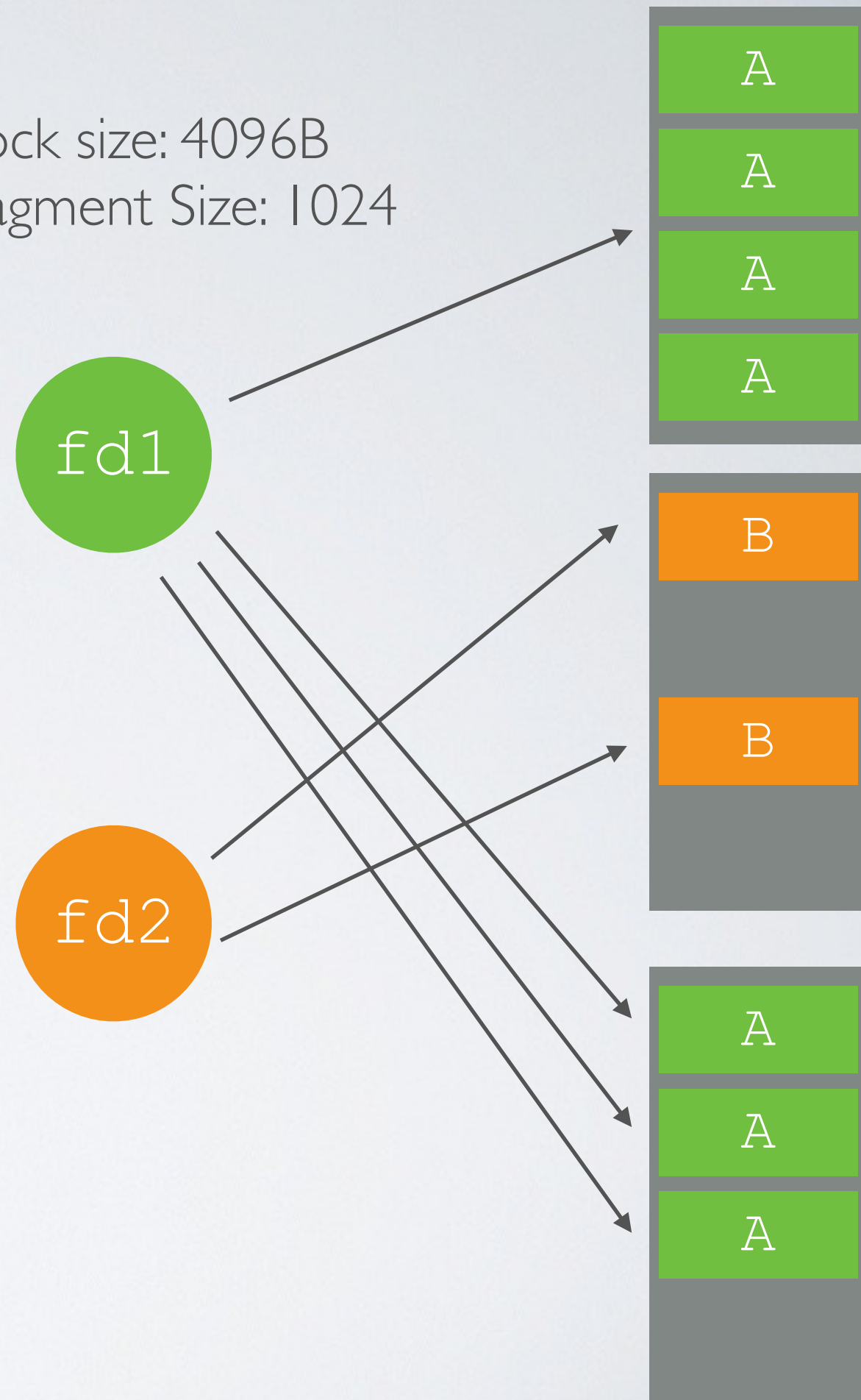
Block size: 4096B

Fragment Size: 1024

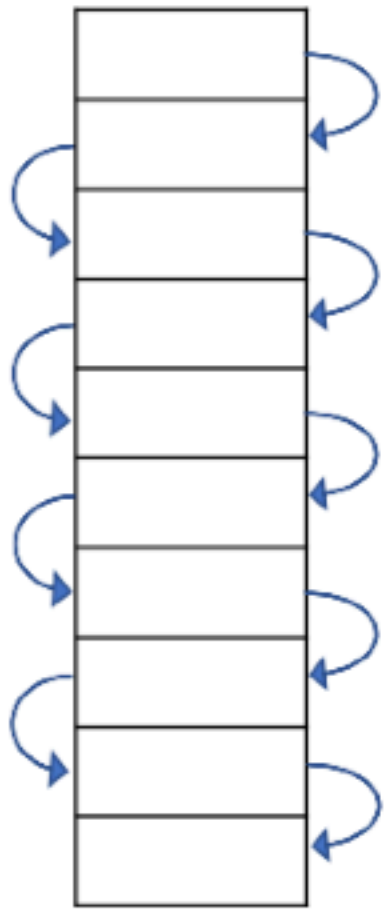
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 2. Append A to fd1
`write(fd1, "A");`
Then fd1 is 6 KB
 3. Append A to fd1 again
`write(fd1, "A");`
 - ⦿ Not allowed to use fragments across multiple blocks
 - ✓ Copy old fragments to new block
- ➡ Then fd1 is 7 KB

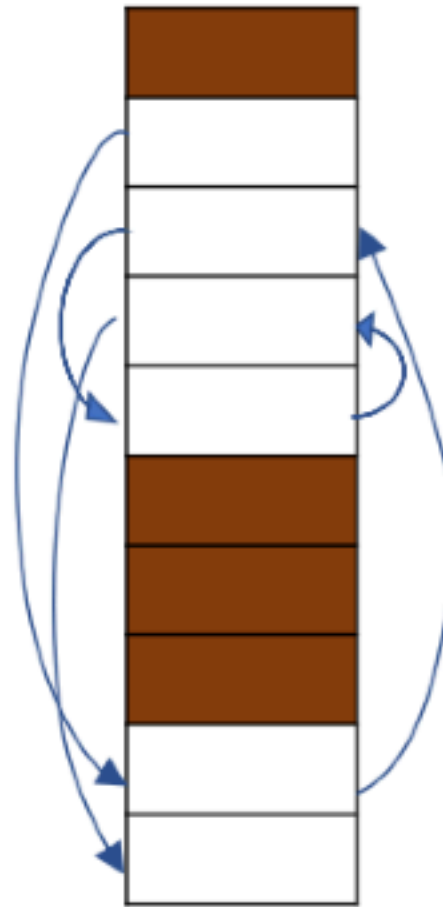
Block size: 4096B
Fragment Size: 1024



Problem 2 - Unorganized Freelist



Initial performance good



Get worse over time

Measurement:

- New FS: **17.5%** of disk bandwidth
- Few weeks old: **3%** of disk bandwidth

● Leads to random allocation of sequential file blocks overtime