

## Descriptor table

0	(stdin)
1	(stdout)
2	(stderr)
3	fd1
4	fd2
5	fd3

## Open file table

abcde.txt
file pos = 0
refcnt = 1

abcde.txt
file pos = 0
refcnt = 1

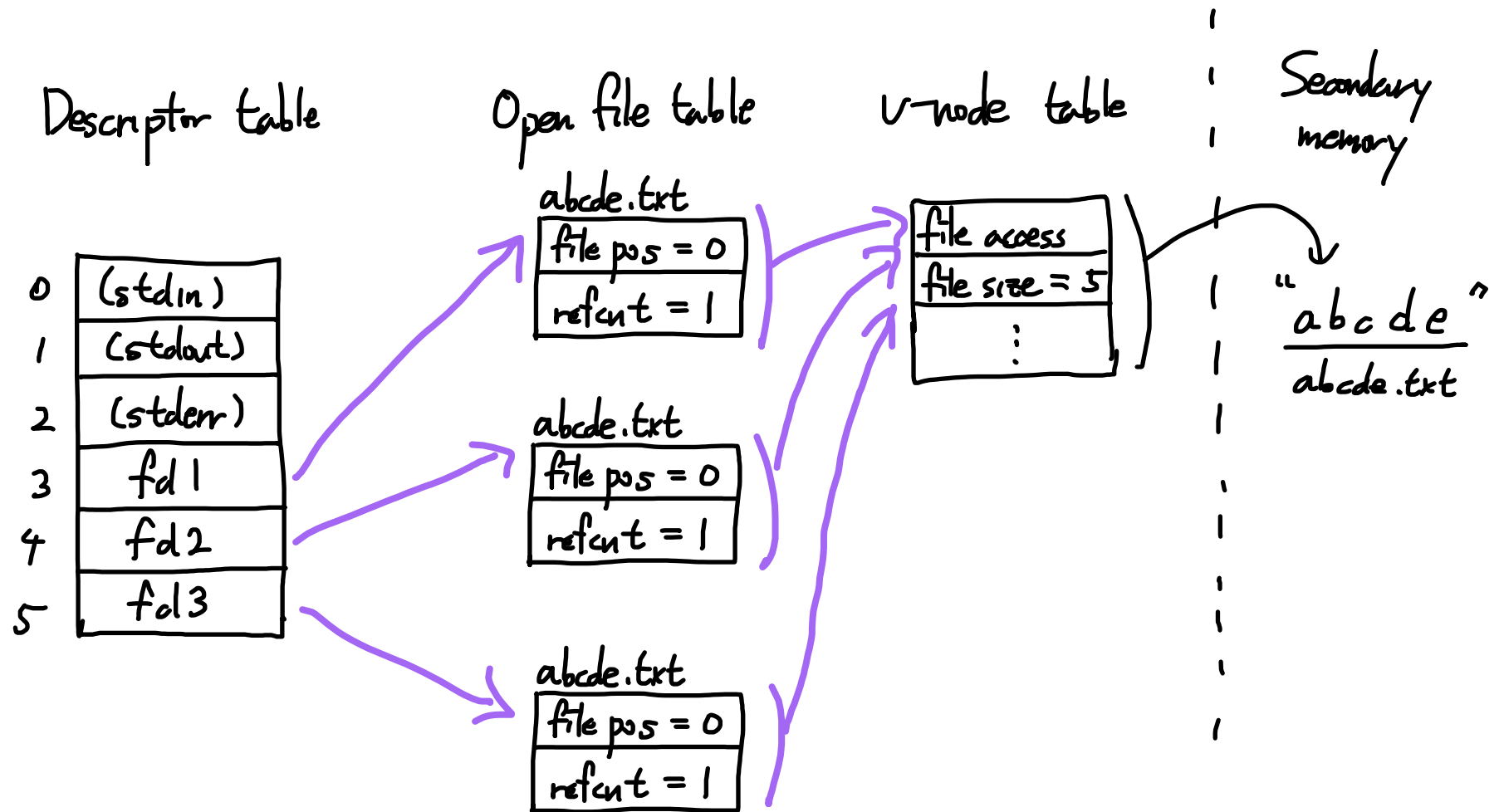
abcde.txt
file pos = 0
refcnt = 1

## V-node table

file access
file size = 5
⋮

Secondary  
memory

↓  
"abcde"  
-----  
abcde.txt



Descriptor table

0	(stdin)
1	(stdout)
2	(stderr)
3	fd1
4	fd2
5	fd3

Open file table

abcde.txt
file pos = 0
refcnt = 1

abcde.txt
file pos = 0
refcnt = 2

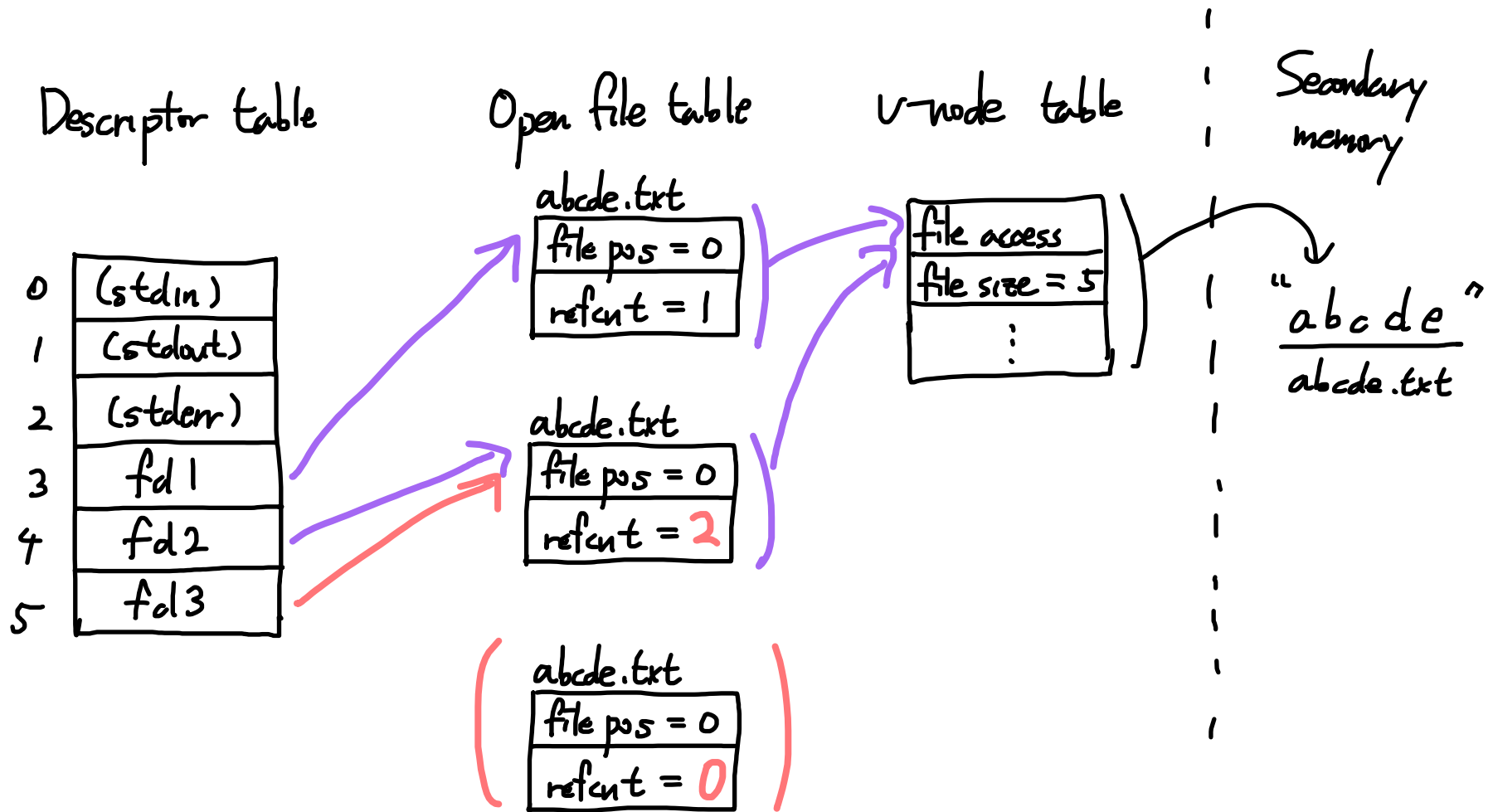
abcde.txt
file pos = 0
refcnt = 0

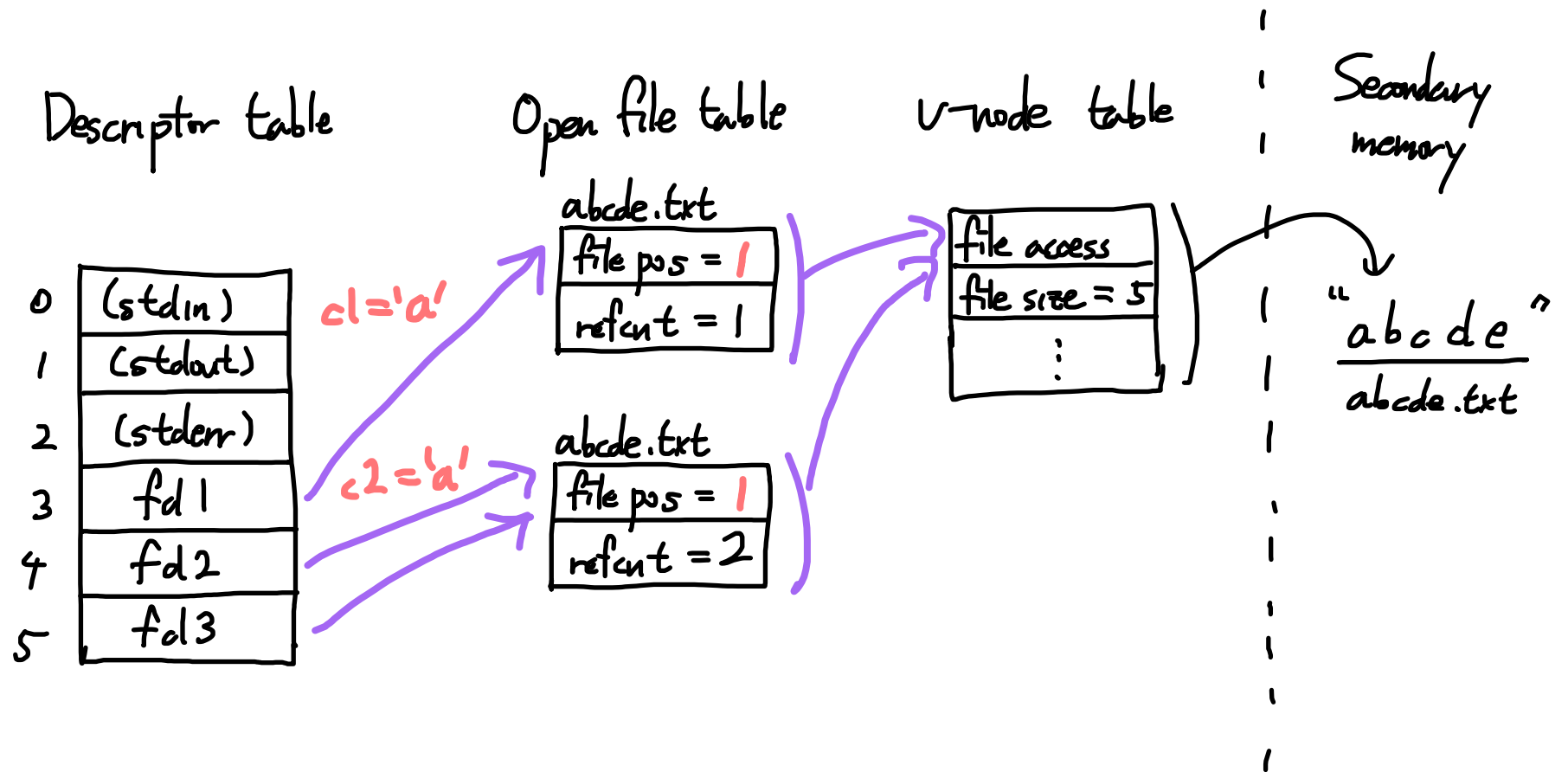
v-node table

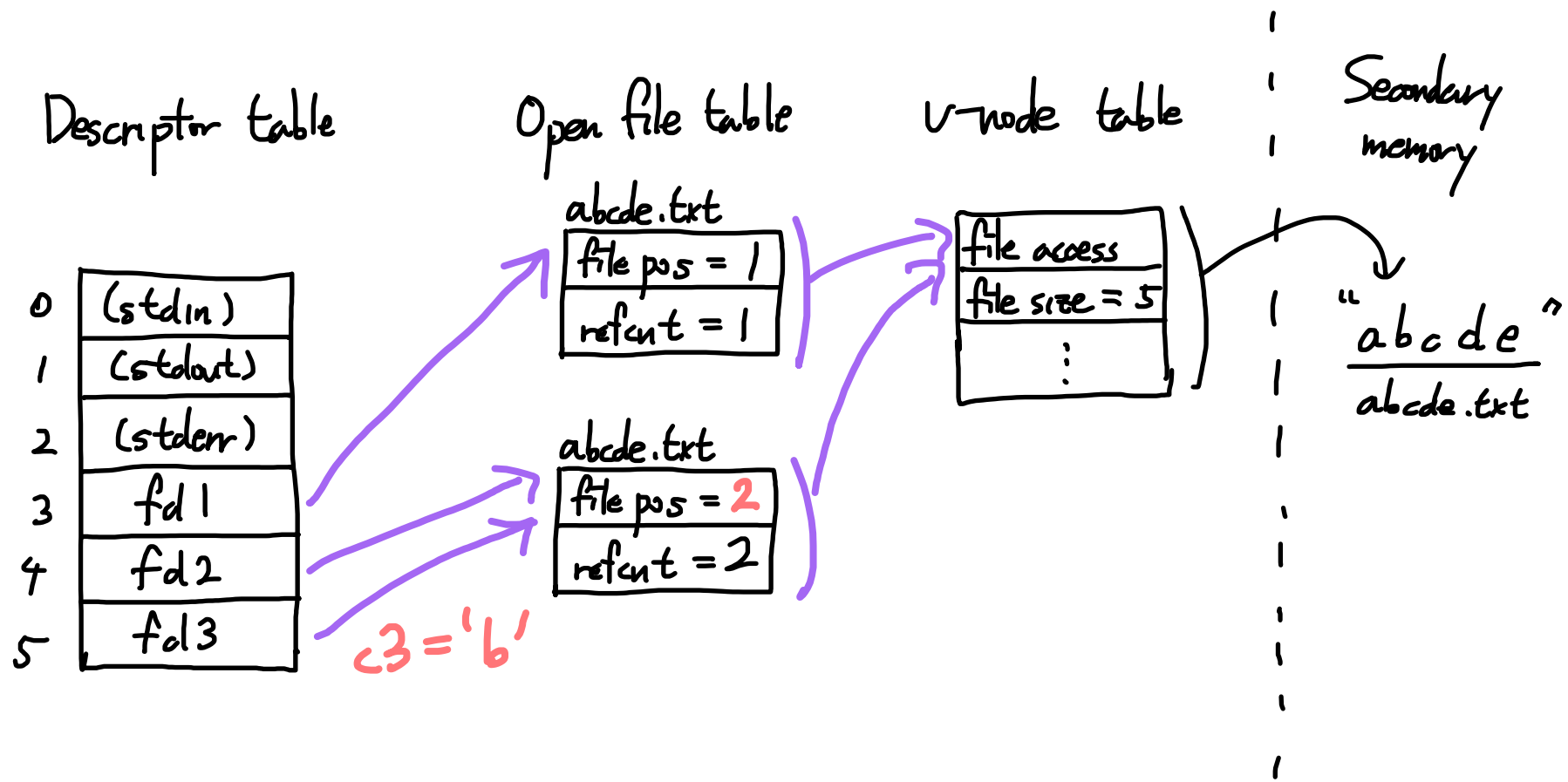
file access
file size = 5
⋮

Secondary memory

“abcde”  
abcde.txt









Descriptor table

0	(stdin)
1	(stdout)
2	(stderr)
3	fd 1

Open file table

abcde.txt
file pos = 0
refcnt = 1

v-node table

file access
file size = 5
:

Secondary  
memory

"abcde"  
-----  
abcde.txt

Descriptor table

0	(stdin)
1	(stdout)
2	(stderr)
3	fd 1

*cl = 'a'*

Open file table

abcde.txt
file pos = 1
refcnt = 1

v-node table

file access
file size = 5
:

Secondary memory

"abcde"  
-----  
abcde.txt



Descriptor table

Parent (cl='a')

0	(stdin)
1	(stdout)
2	(stderr)
3	fd 1

Child (cl='a')

0	(stdin)
1	(stdout)
2	(stderr)
3	fd 1

Open file table

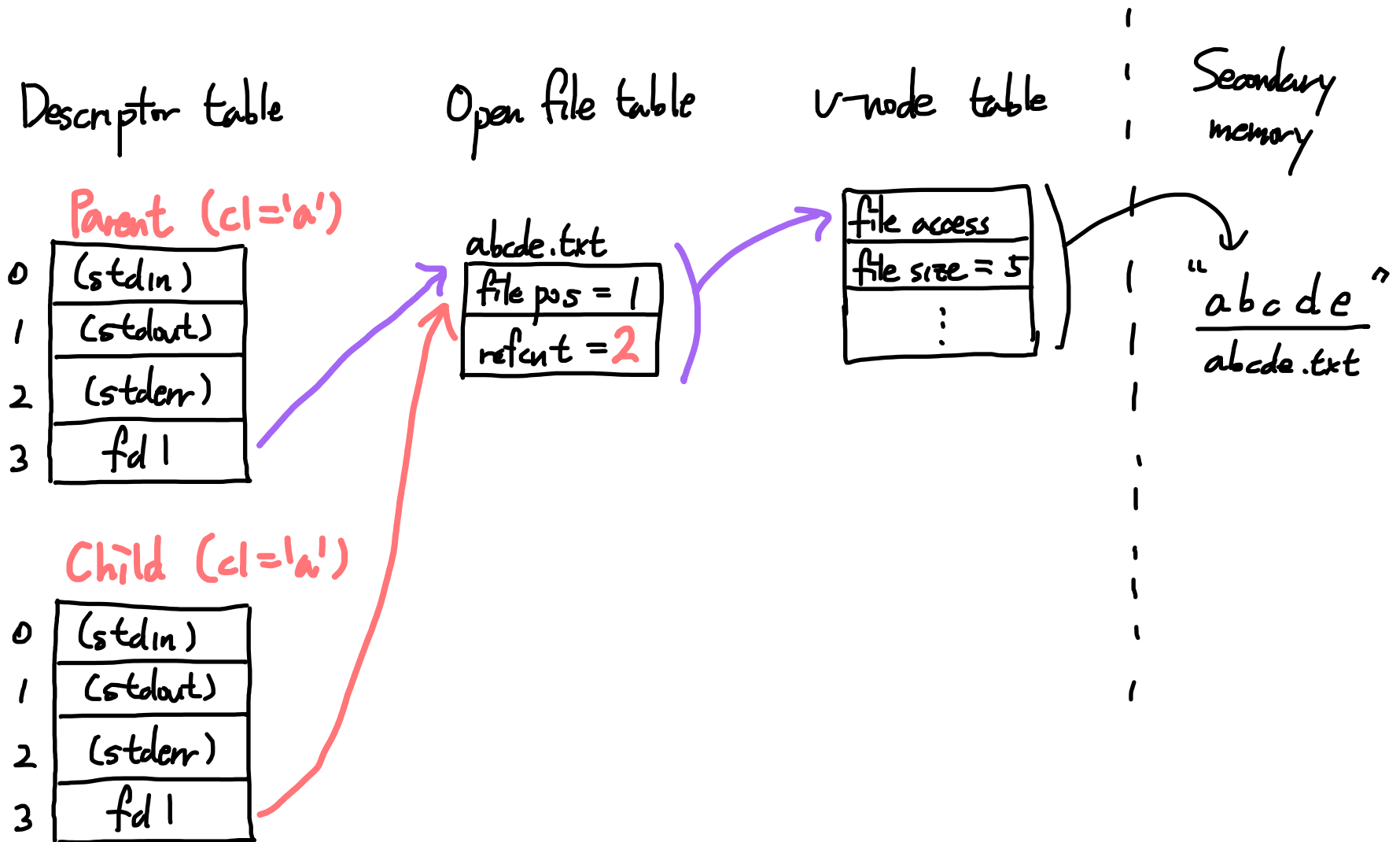
abcde.txt
file pos = 1
refcnt = 2

v-node table

file access
file size = 5
⋮

Secondary memory

"abcde"  
-----  
abcde.txt





Descriptor table

0	(stdin)
1	(stdout)
2	(stderr)
3	fd 1
4	
5	

Open file table

result.txt
file pos = 4
refcnt = 1

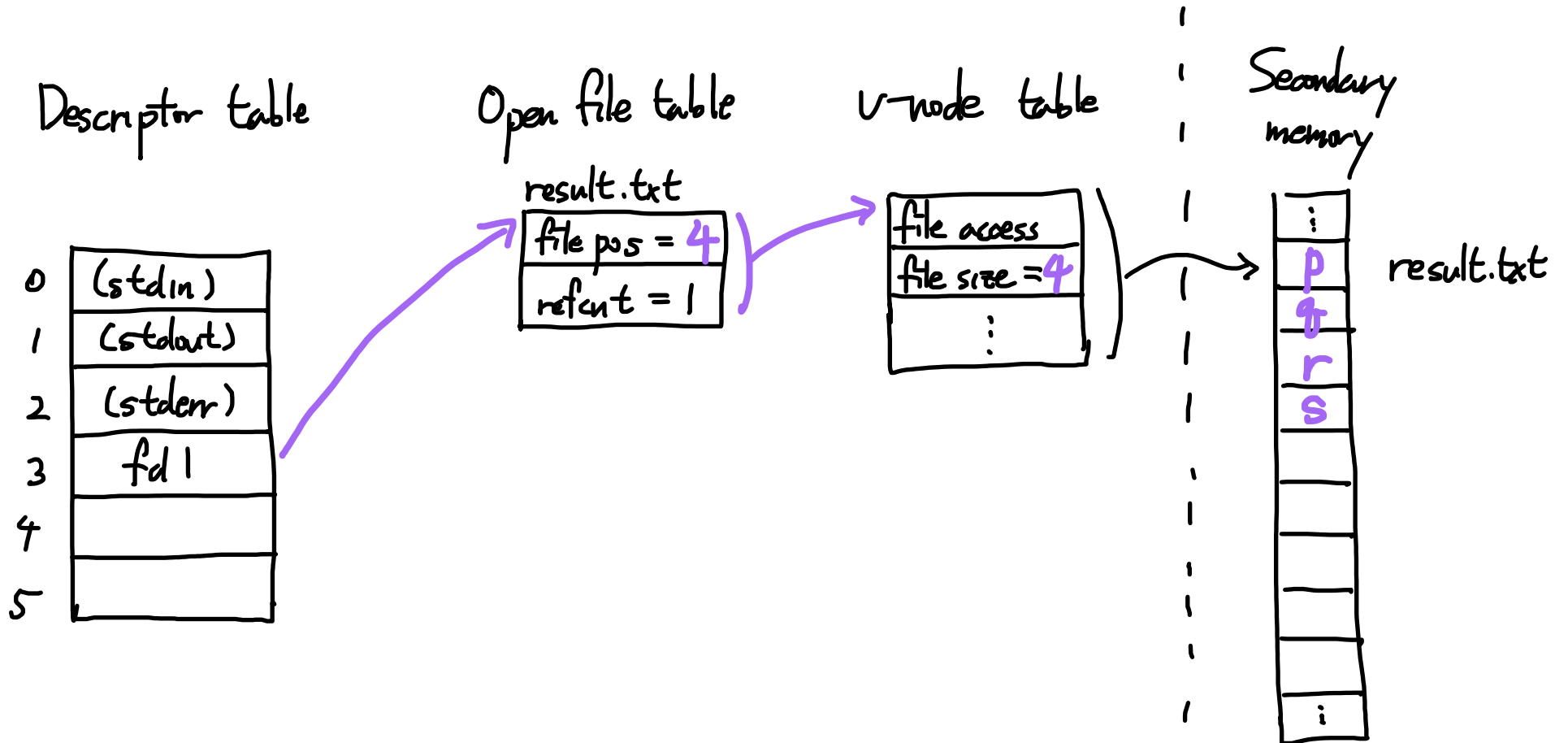
v-node table

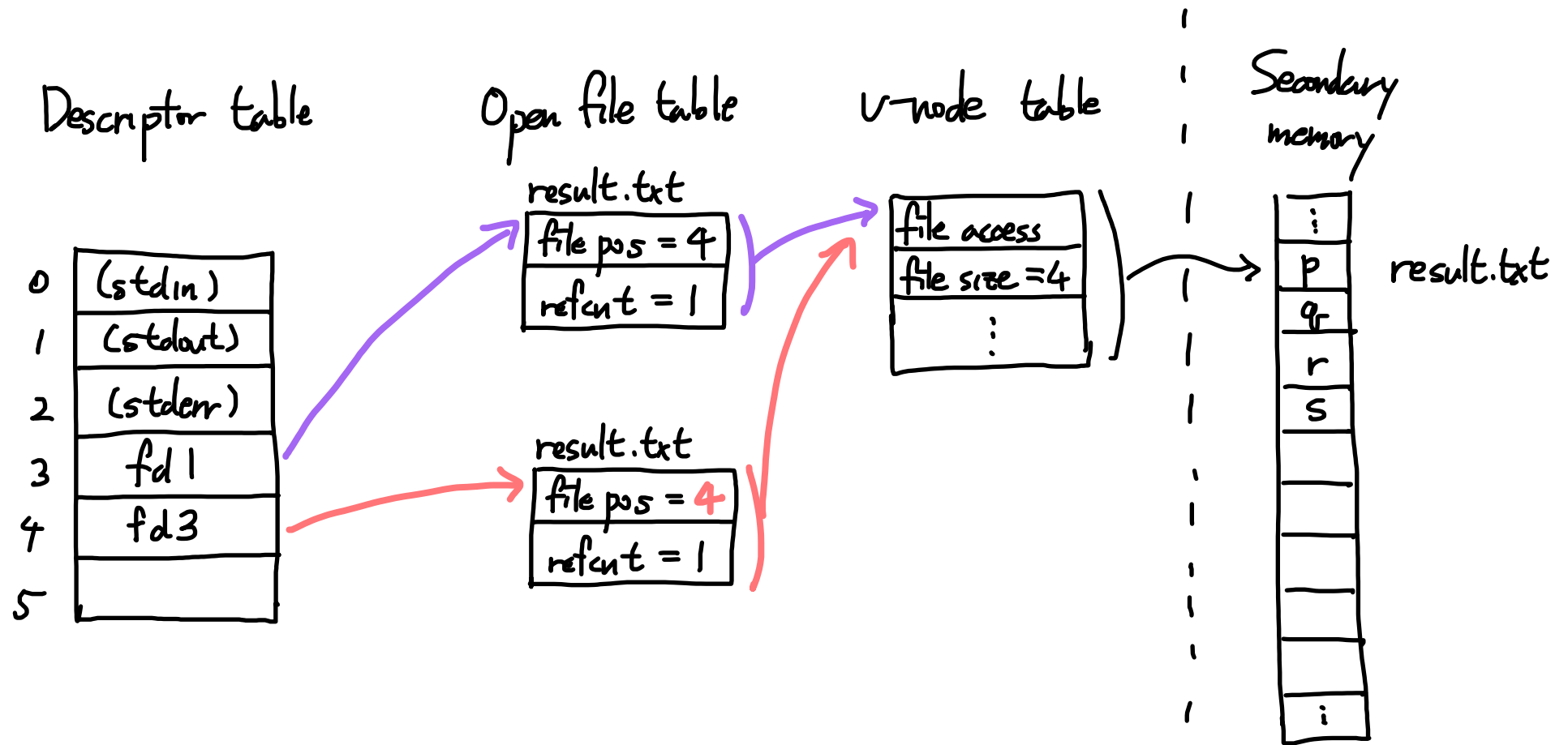
file access
file size = 4
:

Secondary memory

i
p
g
r
s
i

result.txt





Descriptor table

0	(stdin)
1	(stdout)
2	(stderr)
3	fd1
4	fd3
5	

Open file table

result.txt
file pos = 4
refcnt = 1

result.txt
file pos = 9
refcnt = 1

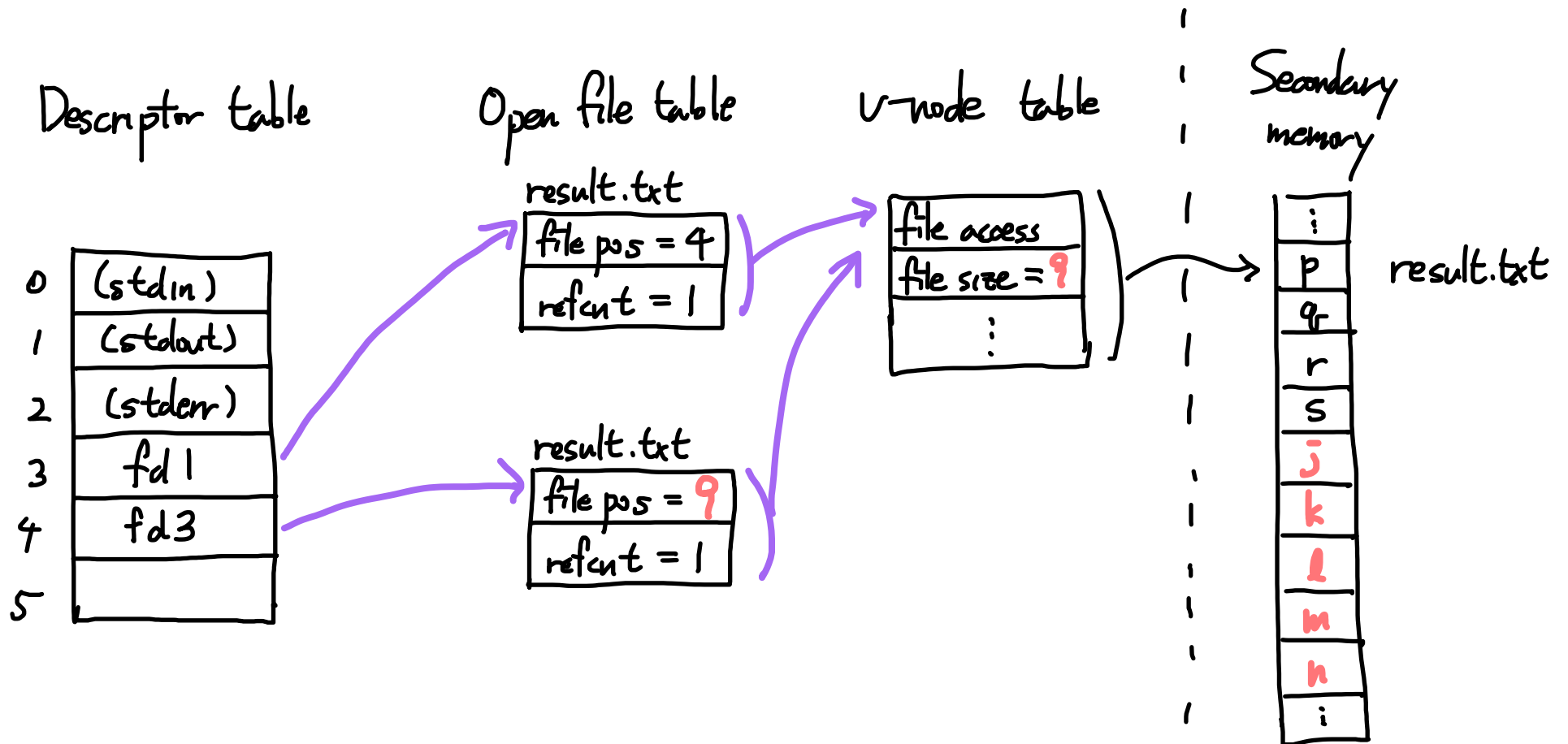
v-node table

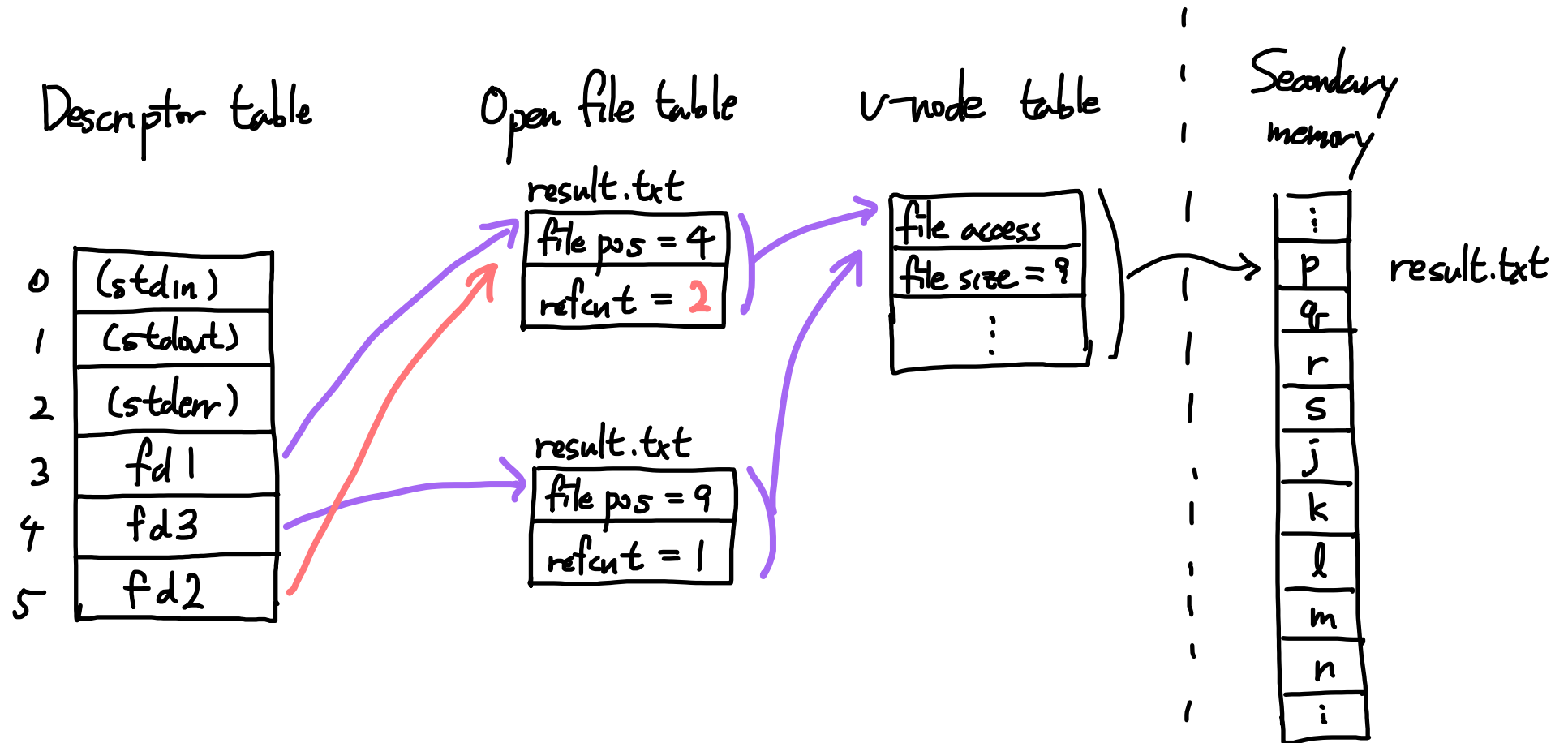
file access
file size = 9
⋮

Secondary memory

i
p
q
r
s
j
k
l
m
n
i

result.txt





Descriptor table

0	(stdin)
1	(stdout)
2	(stderr)
3	fd1
4	fd3
5	fd2

Open file table

result.txt  
file pos = 8  
refcnt = 2

result.txt  
file pos = 9  
refcnt = 1

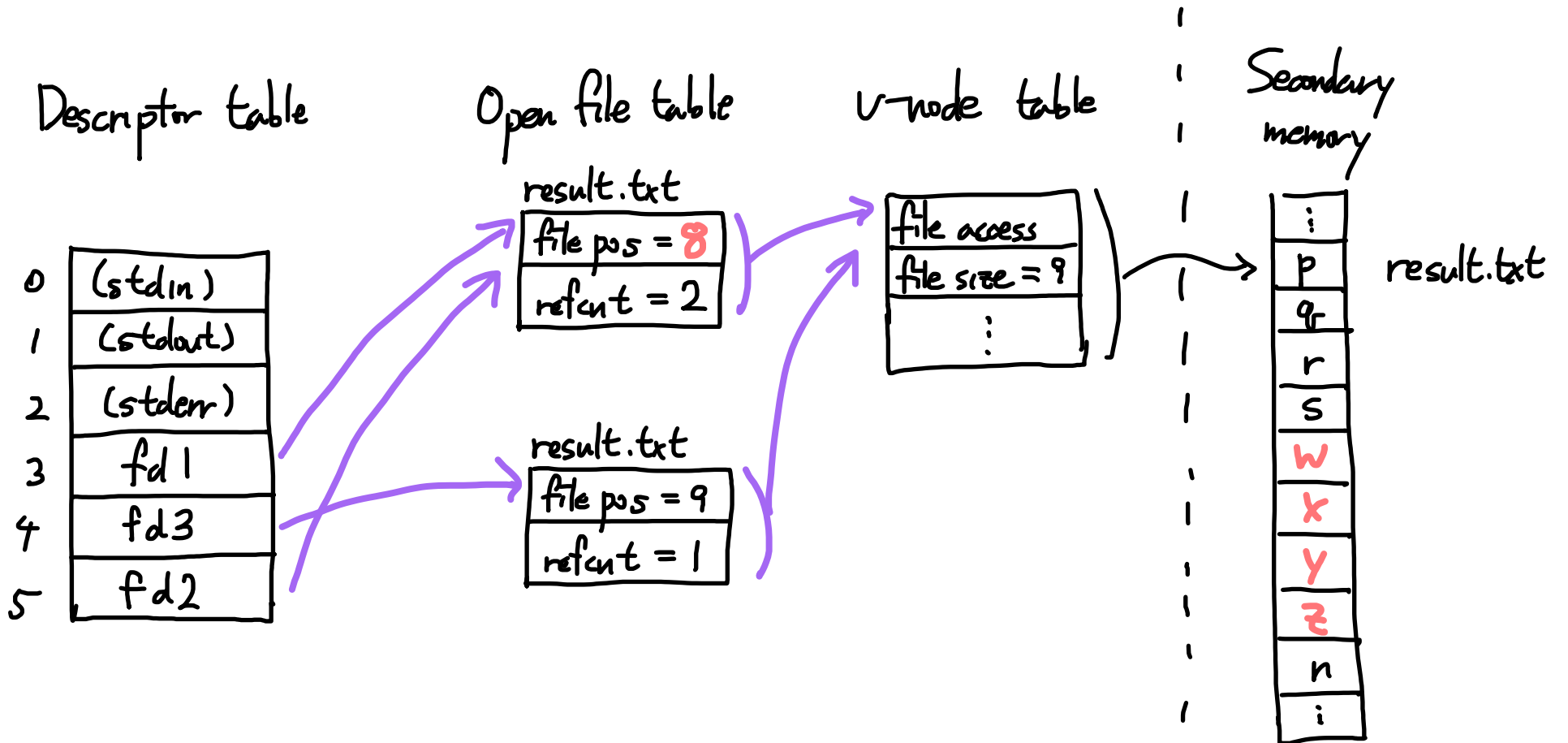
v-node table

file access  
file size = 9  
:

Secondary memory

:  
p  
q  
r  
s  
w  
x  
y  
z  
n  
i

result.txt



Descriptor table

0	(stdin)
1	(stdout)
2	(stderr)
3	fd1
4	fd3
5	fd2

Open file table

result.txt
file pos = 8
refcnt = 2

result.txt
file pos = 11
refcnt = 1

v-node table

file access
file size = 11
⋮

Secondary memory

:
p
q
r
s
w
x
y
z
n
e
f
:

result.txt

