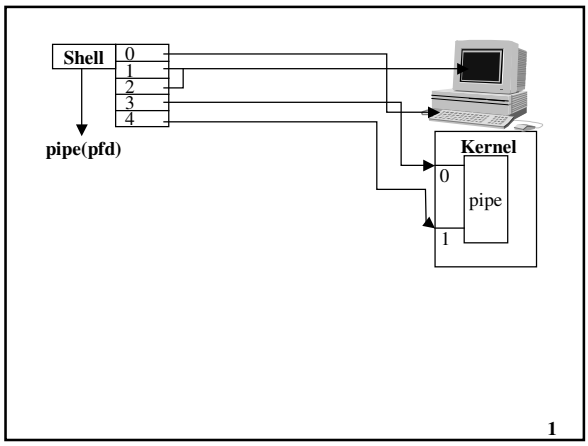
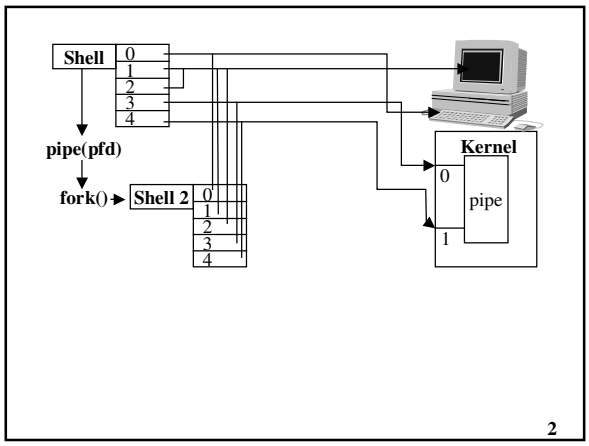
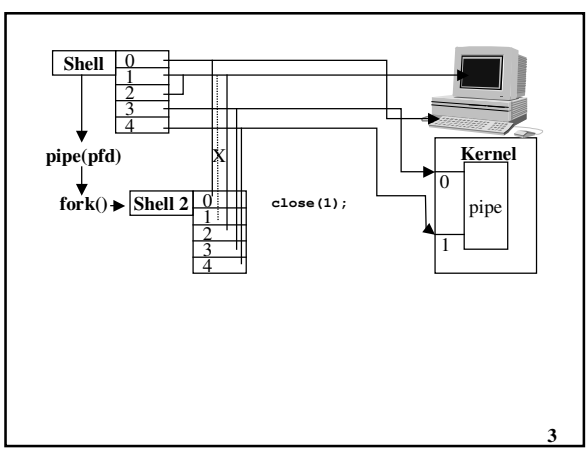

Shell
0
1
2
3
4
pipe(pfd)
Kernel
0
pipe
1

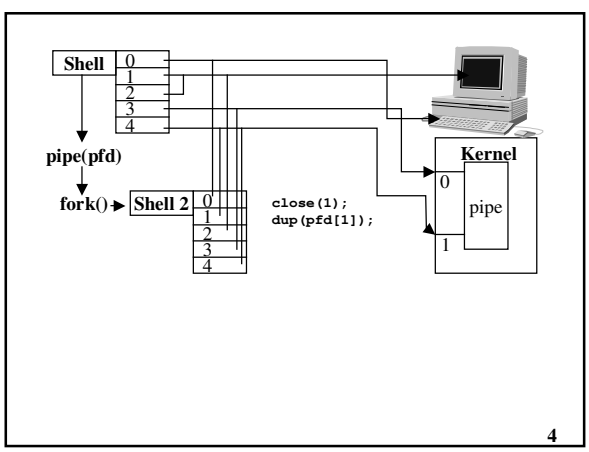
1


Shell
0
1
2
3
4
pipe(pfd)
fork()
Shell 2
0
1
2
3
4
Kernel
0
pipe
1

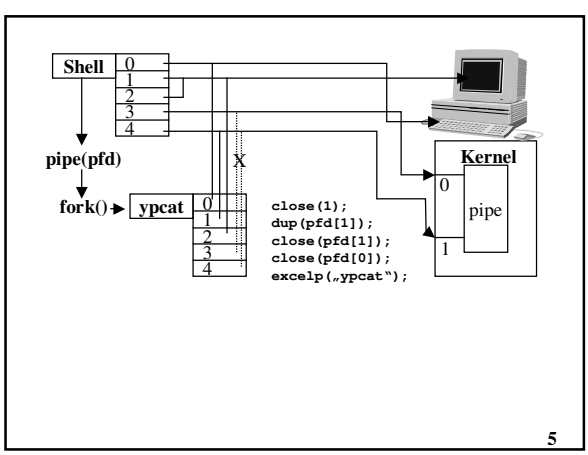
2


Shell
0
1
2
3
4
pipe(pfd)
X
fork()
Shell 2
0
1
2
3
4
close(1);
Kernel
0
pipe
1

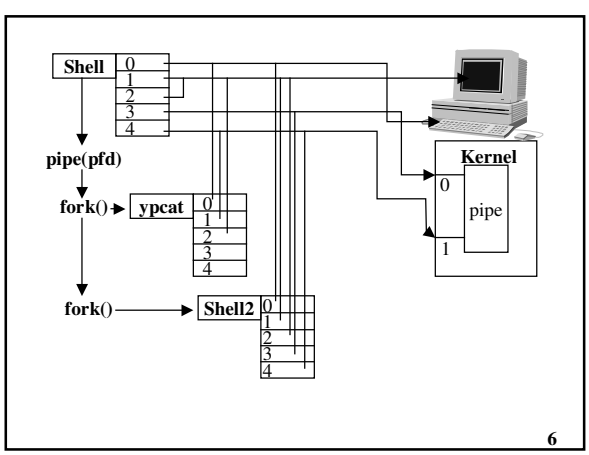
3


Shell
0
1
2
3
4
pipe(pfd)
fork()
Shell 2
0
1
2
3
4
close(1);
dup(pfd[1]);
Kernel
0
pipe
1

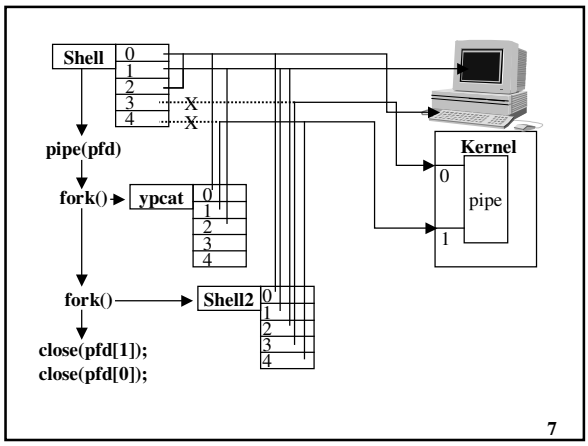
4

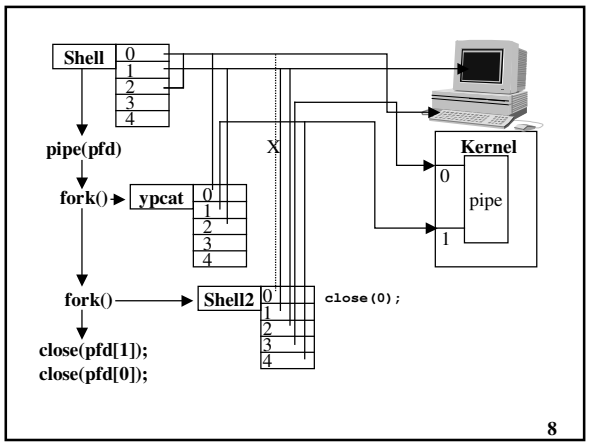

Shell
0
1
2
3
4
pipe(pfd)
X
fork()
ypcat
0
1
2
3
4
close(1);
dup(pfd[1]);
close(pfd[1]);
close(pfd[0]);
excelp(„ypcat");
Kernel
0
pipe
1

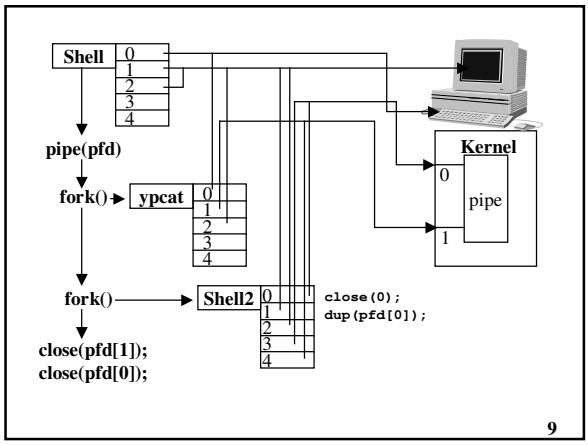
5

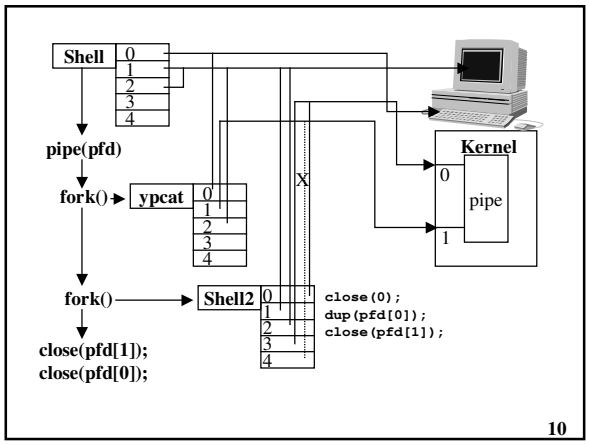

Shell
0
1
2
3
4
pipe(pfd)
fork()
ypcat
0
1
2
3
4
fork()
Shell2
0
1
2
3
4
Kernel
0
pipe
1

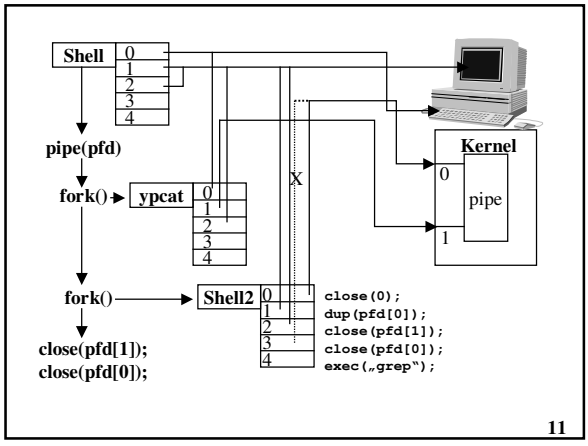
6

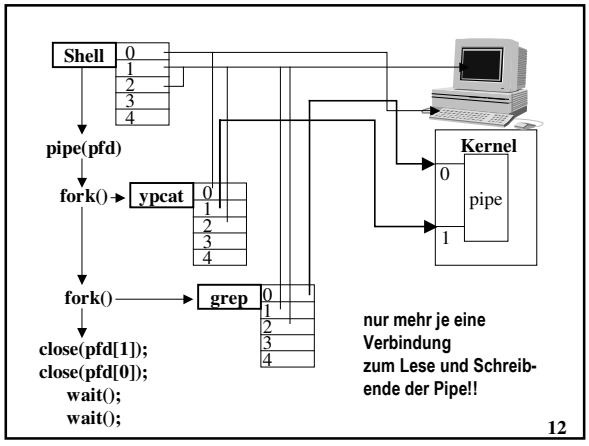

Shell
pipe(pfd)
fork()
ypcat
fork()
Shell2
close(pfd[1]);
close(pfd[0]);
Kernel
pipe
7


Shell
pipe(pfd)
fork()
ypcat
fork()
Shell2
close(0);
close(pfd[1]);
close(pfd[0]);
Kernel
pipe
8


Shell
pipe(pfd)
fork()
ypcat
fork()
Shell2
close(0);
dup(pfd[0]);
close(pfd[1]);
close(pfd[0]);
Kernel
pipe
9


Shell
pipe(pfd)
fork()
ypcat
fork()
Shell2
close(0);
dup(pfd[0]);
close(pfd[1]);
close(pfd[1]);
close(pfd[0]);
Kernel
pipe
10


Shell
pipe(pfd)
fork()
ypcat
fork()
Shell2
close(0);
dup(pfd[0]);
close(pfd[1]);
close(pfd[0]);
exec(„grep");
close(pfd[1]);
close(pfd[0]);
Kernel
pipe
11


Shell
pipe(pfd)
fork()
ypcat
fork()
grep
close(pfd[1]);
close(pfd[0]);
wait();
wait();
Kernel
pipe
nur mehr je eine
Verbindung
zum Lese und Schreib-
ende der Pipe!!
12