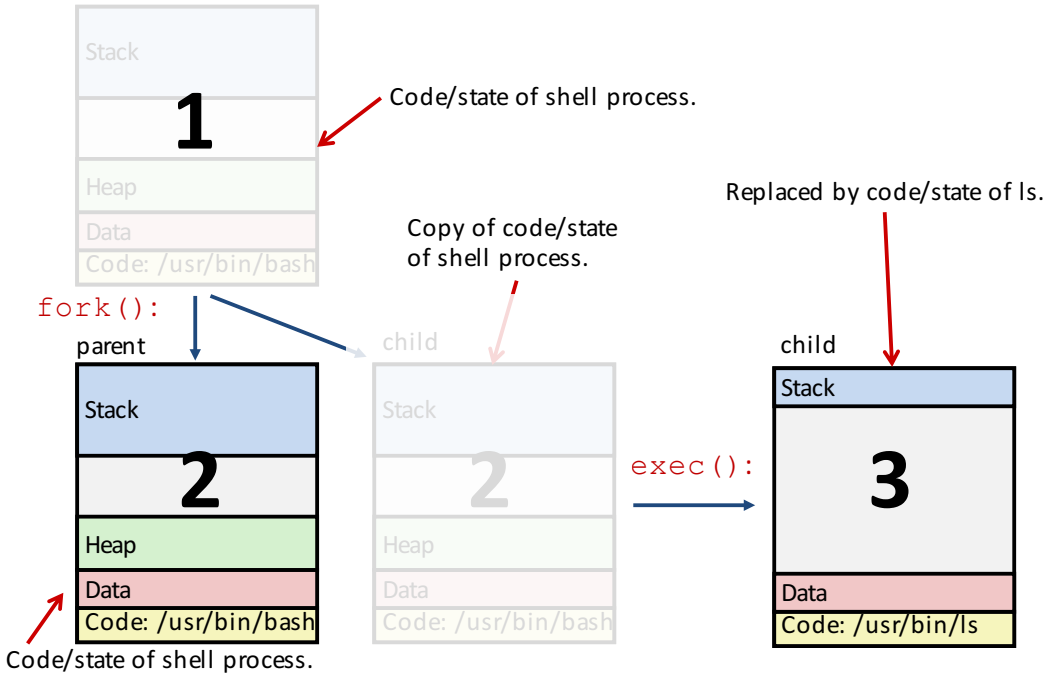
Fork/Exec



Reaping: waitpid / wait

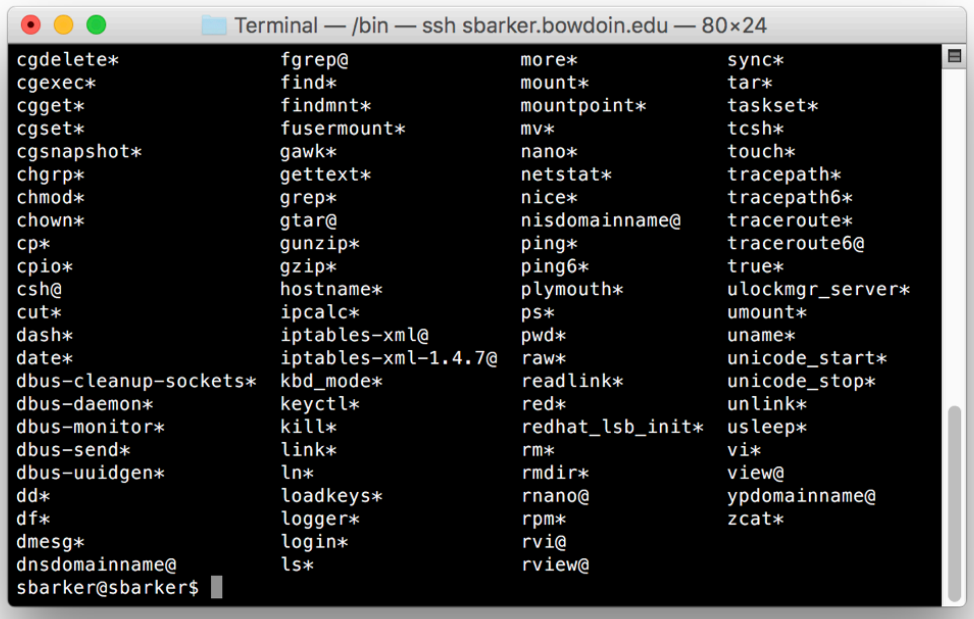
```
pid_t waitpid(pid_t pid, int* stat, int ops)
```

System Call Error Handling

Always check return values!

```
if ((pid = fork()) < 0) {
    fprintf(stderr, "fork error: %s\n", strerror(errno));
    exit(0);
}
```


Shell



Shell Design

```
while (true) {
    Print command prompt.
    Read command line from user.
    Parse command line.
    If command is built-in, do it.
    Else fork process to execute command.
        in child:
            Execute requested command with execv.
                                    (never returns)
        in parent:
            Wait for child to complete.
}
```