SUBSHELLS & CHILD PROCESSES

Parent shell

$ → **/usr/bin/ksh**

→ Text segment
contains program code (shared, read only)

→ Data segment
contains several data areas
(linked lists for variables and aliases for instance)

← **display prompt** ($PS1) ──────────────────────────────┐

$ UNIX command line <return>

read command line
start command line parsing sequence
– perform preliminary syntax check
⋮
– execute command (= first word)

→ if command line incomplete:
display secondary prompt ($PS2)
and wait for next <return>

1. 1 Shell built–in?   **YES** → **run**
built–in code ──────────────────→

NO ↓

1. 2 Function?   **YES** → **interpret**
function ──────────────────→

NO ↓

– locate command ($PATH)
– determine type of program:
shared executable or shell script?

→ if not found: issue error message →

exec () → **run executable**
or
run subshell and read script → **exit ()**

child
process
runs

fork () → **wait ()** - - - - - - parent sleeps

create
child process

awakened
parent

receives
exit status