02 Jan 2025 — Operating Systems - II — Week 01

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user
$\updownarrow$
application programs
$\updownarrow$

System calls — invoke kernel-level functions

printf → not a system call (invokes one)

$\updownarrow$

OS

$\updownarrow$

hardware
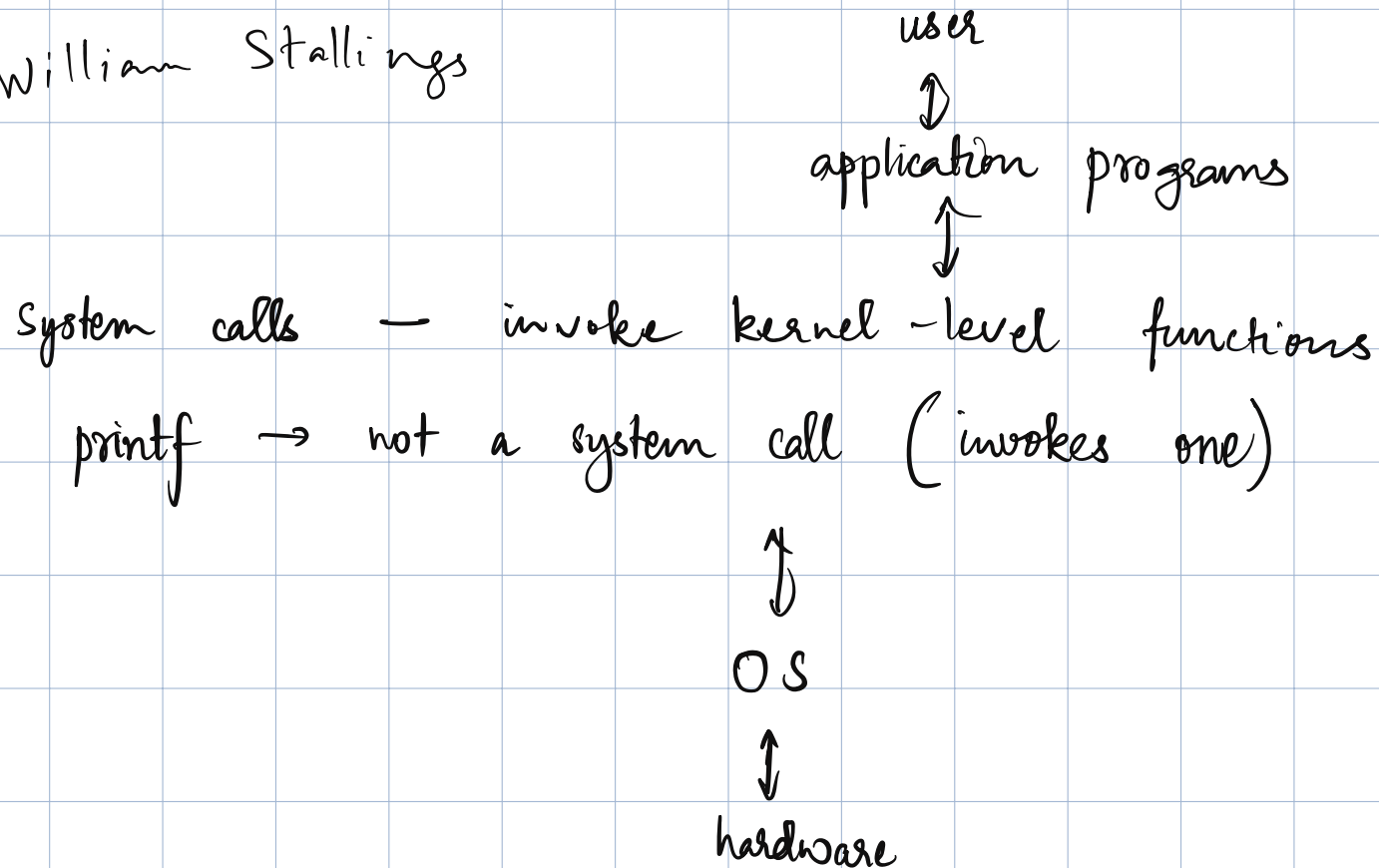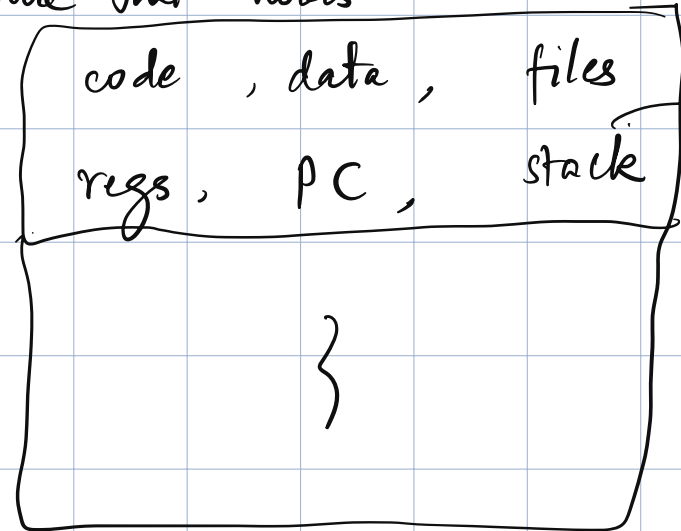
fork — create a child process

Threads

Each process has a PCB → data structure that holds

```
{
  code  ,  data  ,  files
  regs  ,  PC  ,  stack
}
```

→ function calls and local variables

single threaded process

Why threads and not multiple processes?

→ threads are light-weight
  can be created easily

→ less resource intensive.