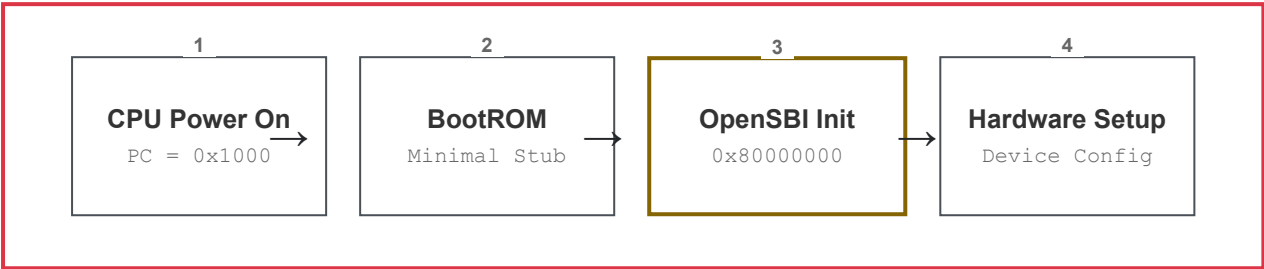
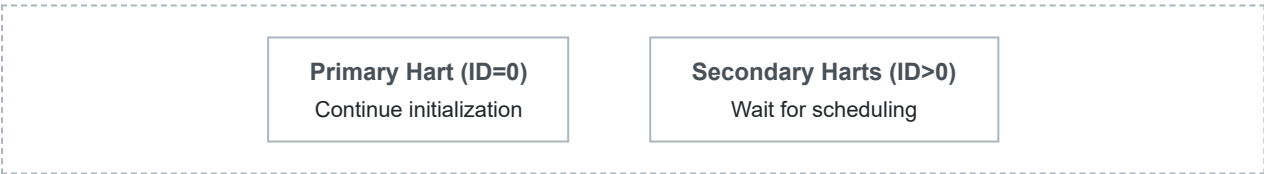
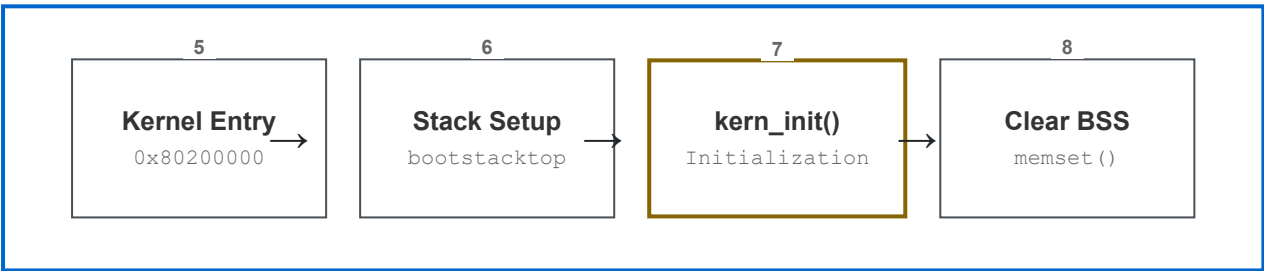


RISC-V System Boot Process Architecture

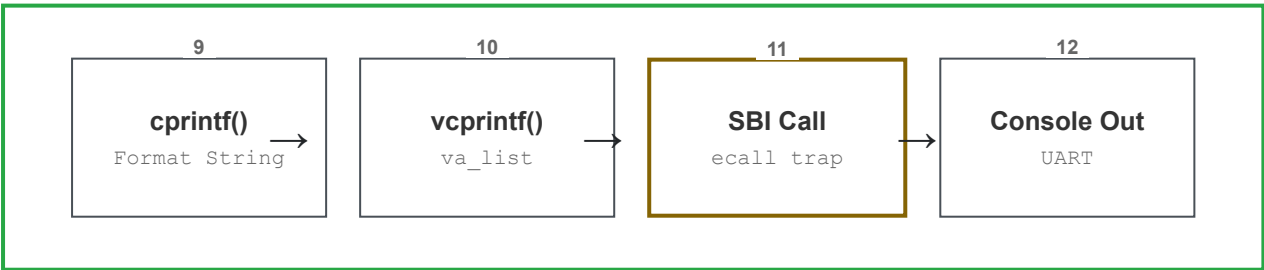
M-MODE Machine Mode - Firmware Level



S-MODE Supervisor Mode - Operating System Kernel



I/O Console Output Subsystem



MEMORY LAYOUT

0x1000: BootROM
0x80000000: OpenSBI
0x80200000: Kernel

PRIVILEGE LEVELS

M-Mode: Highest privilege
S-Mode: OS kernel
U-Mode: User applications

KEY TRANSITIONS

mret: M→S transition
ecall: S→M trap
sret: S→U return