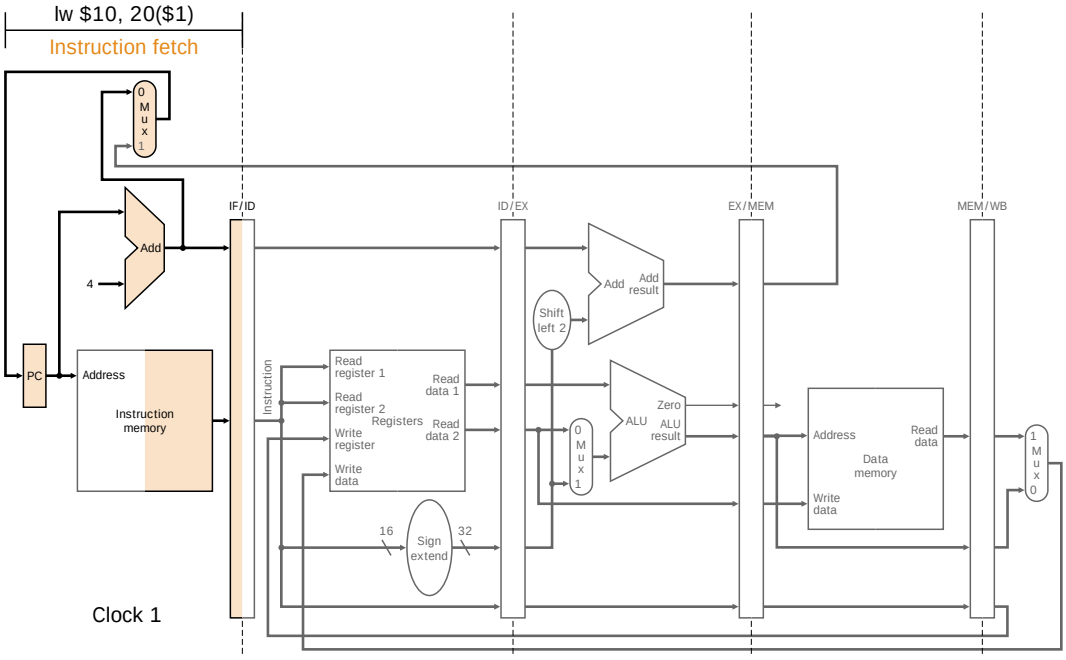
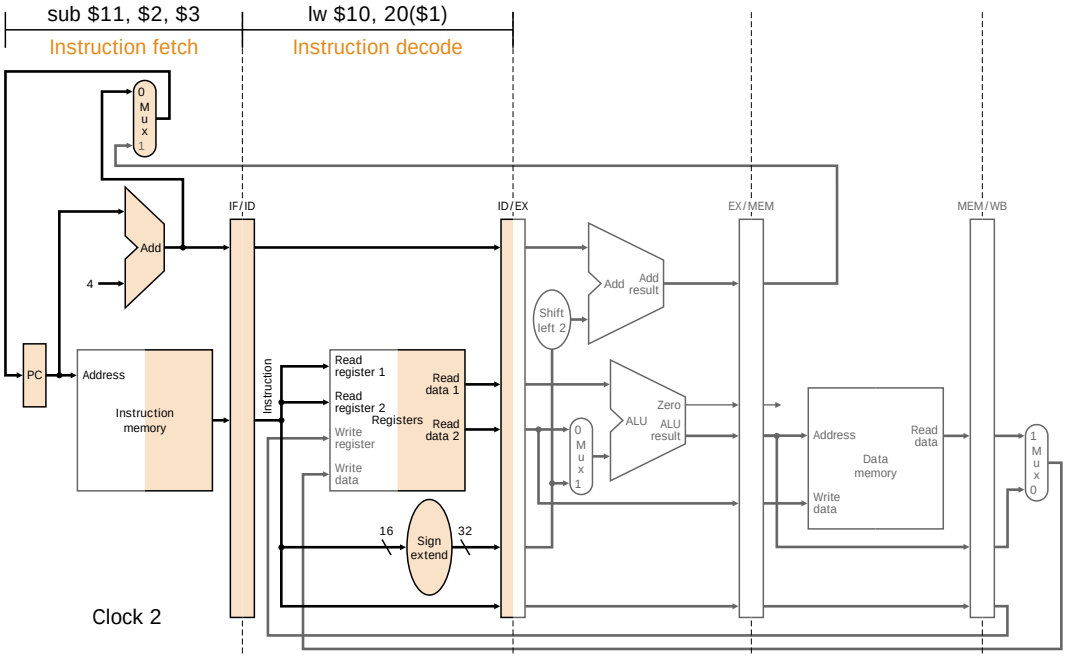

lw $10, 20($1)
Instruction fetch
IF/ID
ID/EX
EX/MEM
MEM/WB
Add
4
PC
Address
Instruction memory
Instruction
Read register 1
Read register 2
Registers
Write register
Write data
Read data 1
Read data 2
16
Sign extend
32
Shift left 2
Add
Add result
ALU
Zero
ALU result
Address
Data memory
Read data
Write data
Clock 1


sub $11, $2, $3
lw $10, 20($1)
Instruction fetch
Instruction decode
IF/ID
ID/EX
EX/MEM
MEM/WB
Add
4
PC
Address
Instruction memory
Instruction
Read register 1
Read register 2
Registers
Write register
Write data
Read data 1
Read data 2
16
Sign extend
32
Shift left 2
Add
Add result
ALU
Zero
ALU result
Address
Data memory
Read data
Write data
Clock 2