

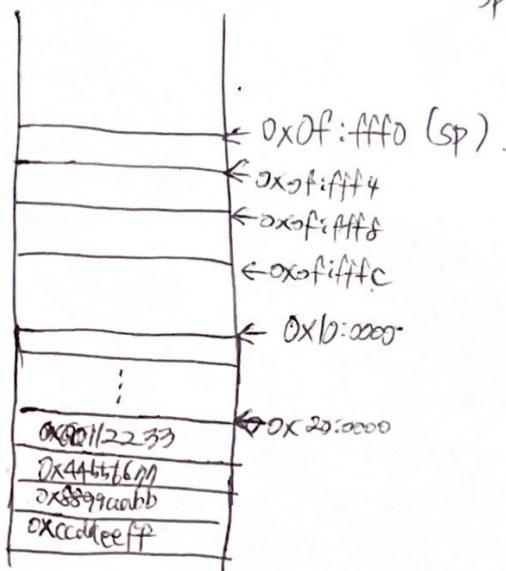
① 0xec CPU

R4 = 0x20:0000
R5 = 0x20:0004
R6 = 0x20:0008
R7 = 0x20:000C
⋮
R29 = 0x10:0000
R30 = 0x00 → 0x00
R31 = 0x ffff:ffff
PC = 0xec → 0xf0

addiu sp < sp + (-16)

sp = 0xfffffA

Stack

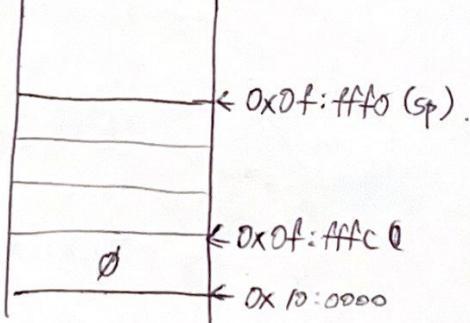


② 0xf0 CPU

R4 = 0x20:0000
R5 = 0x20:0004
R6 = 0x20:0008
R7 = 0x20:000C
⋮
R29 = 0x0f:ffff0
R30 = 0x00 → 0x00
R31 = 0x ffff:ffff
PC = 0xf0 → 0xf4

sw \$8 → [sp + 12]

Stack

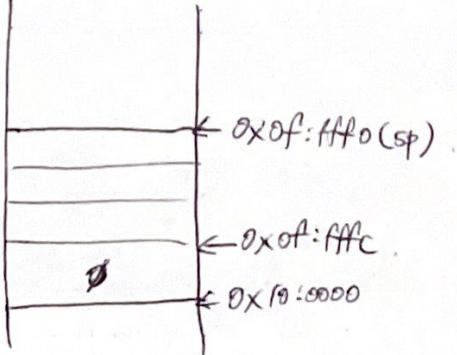


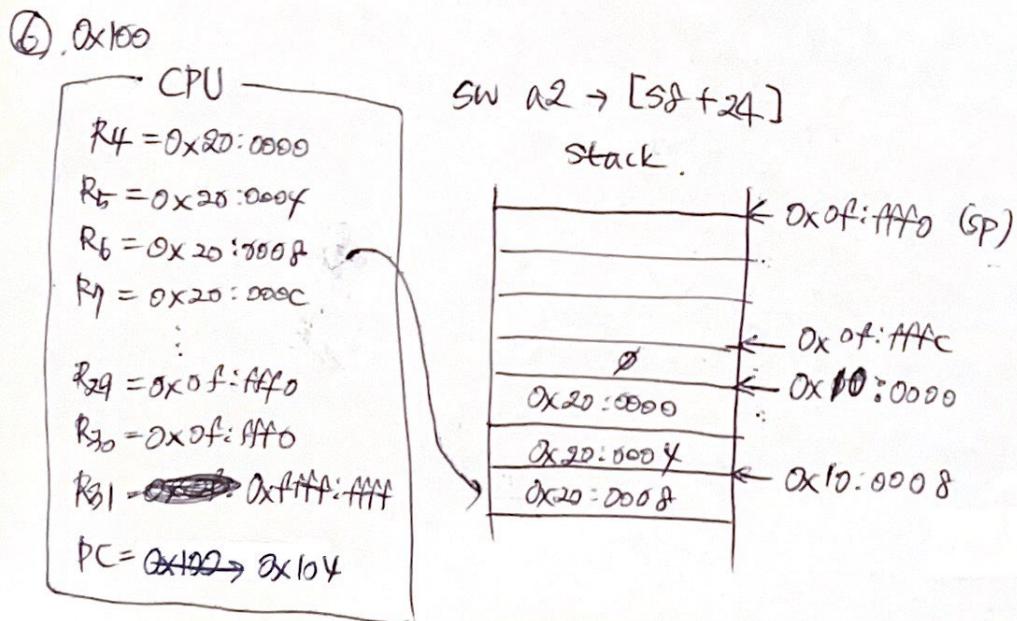
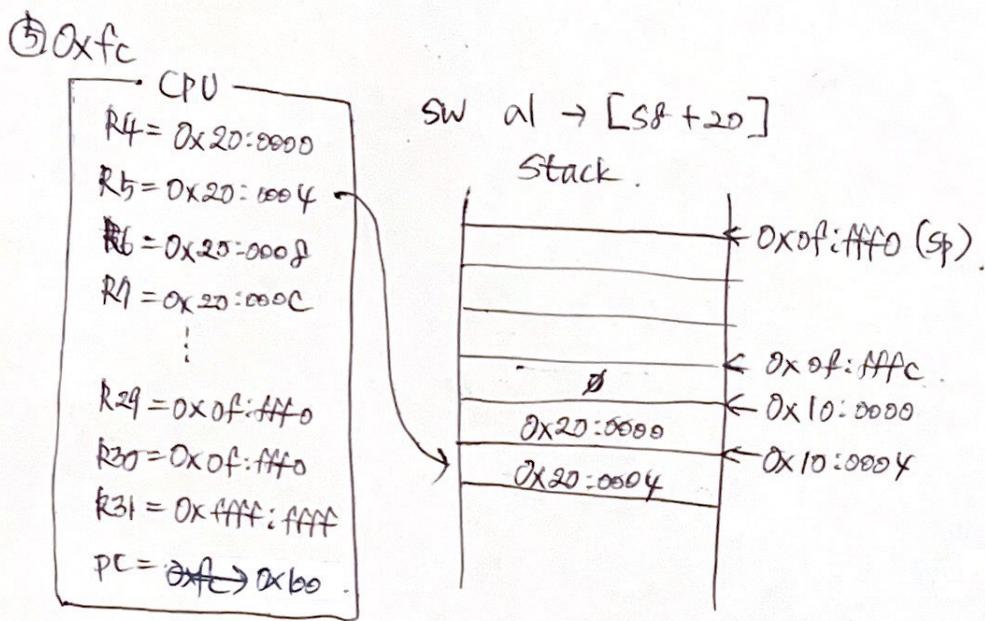
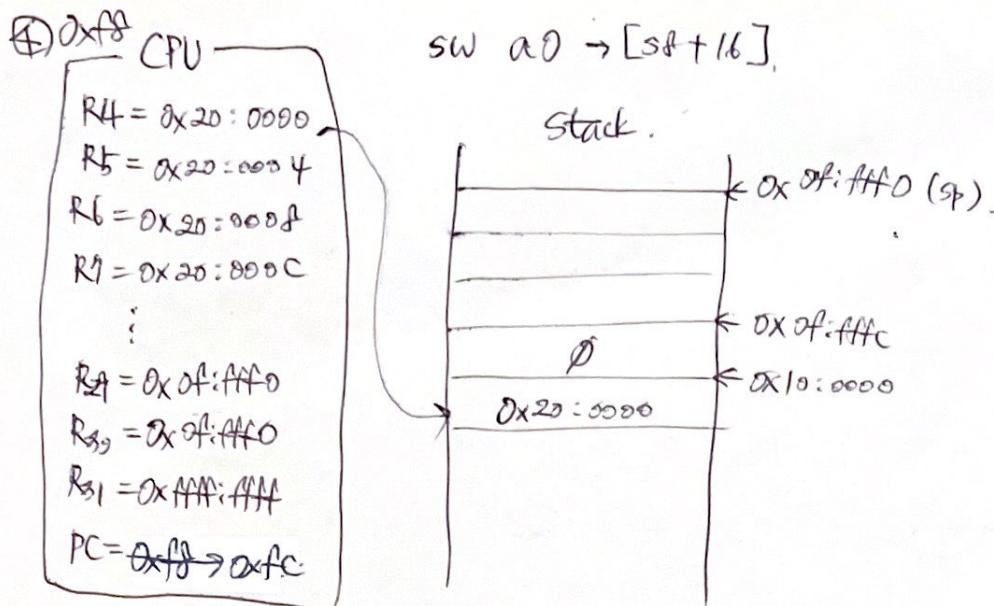
③ 0xf4

CPU
R4 = 0x20:0000
R5 = 0x20:0004
R6 = 0x20:0008
R7 = 0x20:000C
⋮
R29 = 0x0f:ffff0
R30 = 0x00 → 0x0f:ffff0
R31 = 0x ffff:ffff
PC = 0xf4 → 0xf8

move \$8 < sp

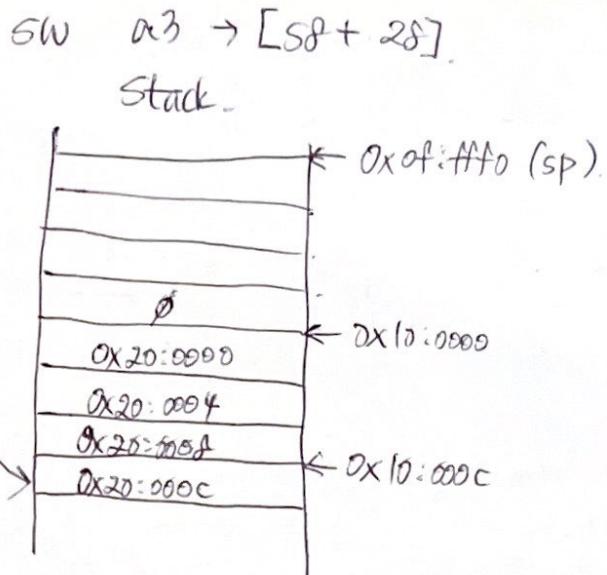
Stack





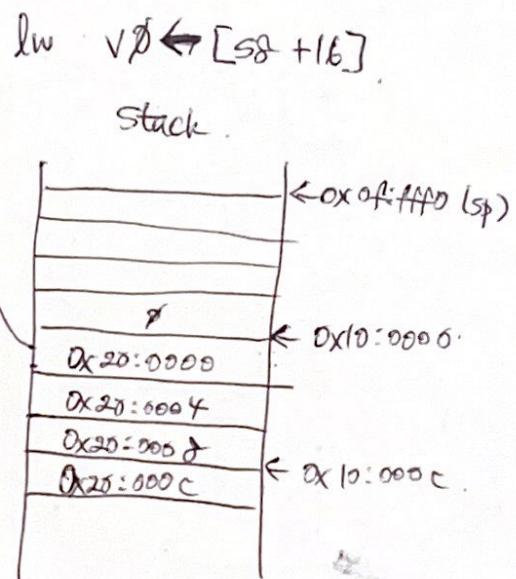
⑦. 0x104 CPU

R ₄	= 0x20:0000
R ₅	= 0x20:0004
R ₆	= 0x20:0008
R ₇	= 0x20:000C
R ₈	:
R ₂₉	= 0x0f:ffff
R ₃₀	= 0x0f:ffff
R ₃₁	= 0xffff:ffff
PC	= 0x104 → 0x108



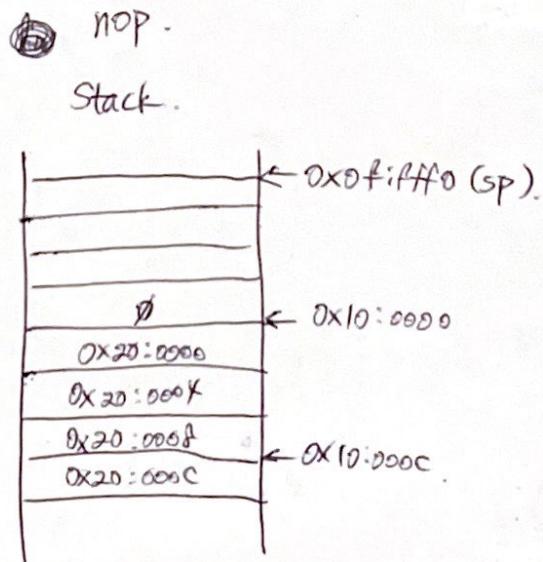
⑧. 0x108 CPU

R ₂	= 0x20:0000
R ₃	= 0
R ₄	= 0x20:0000
R ₅	= 0x20:0004
R ₆	= 0x20:0008
R ₇	= 0x20:000C
R ₈	:
R ₂₉	= 0x0f:ffff
R ₃₀	= 0x0f:ffff
R ₃₁	= 0xffff:ffff
PC	= 0x108 → 0x10c



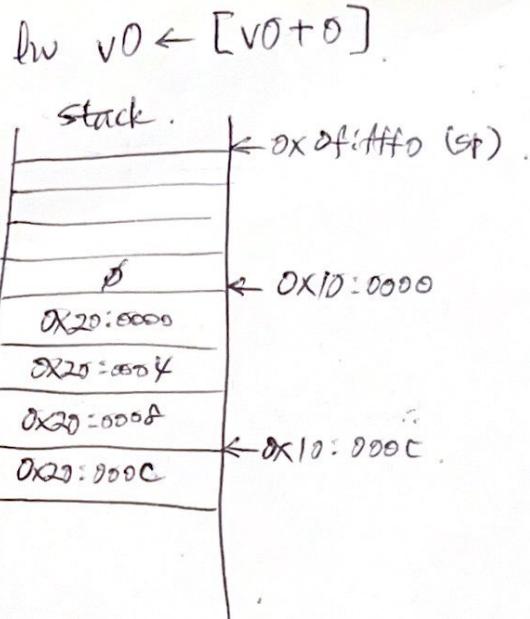
⑨. 0x10c CPU

R ₂	= 0x20:0000
R ₃	= 0.
R ₄	= 0x20:0000
R ₅	= 0x20:0004
R ₆	= 0x20:0008
R ₇	= 0x20:000C
R ₈	:
R ₂₉	= 0x0f:ffff
R ₃₀	= 0x0f:ffff
R ₃₁	= 0xffff:ffff
PC	= 0x10c → 0x110



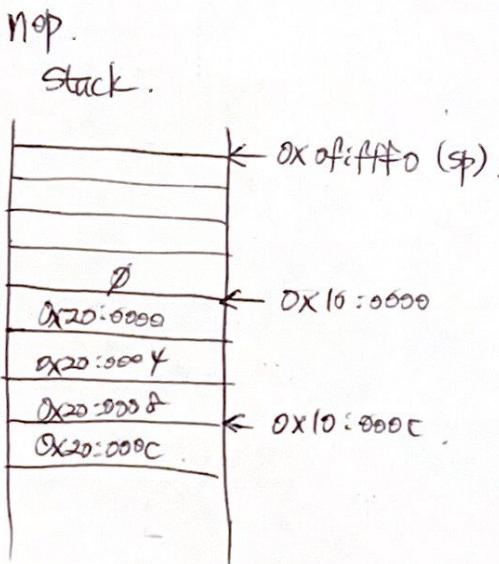
⑩ 0x110 CPU

$R_2 = \text{0x20: } 0000$	$\rightarrow 0x00112233$
$R_3 = 0$	
$R_4 = \text{0x20: } 0000$	
$R_5 = \text{0x20: } 0004$	
$R_6 = \text{0x20: } 0008$	
$R_7 = \text{0x20: } 000C$	
:	
$R_{29} = \text{0x0f: } fff0$	
$R_{30} = \text{0x0f: } fff0$	
$R_{31} = \text{0x4fff: } ffff$	
$PC = 0x110 \rightarrow 0x114$	



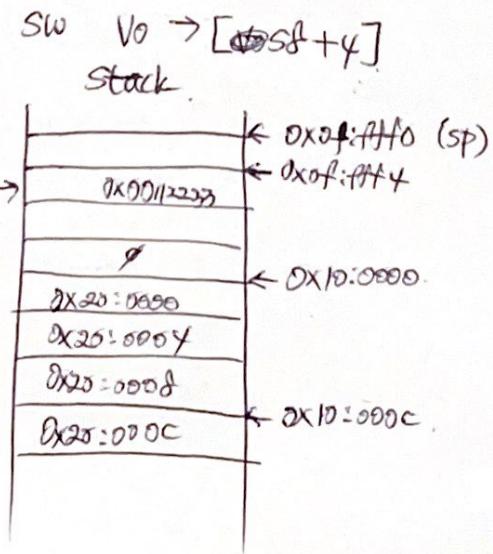
⑪ 0x114 CPU

$R_2 = \text{0x00112233}$	
$R_3 = 0$	
$R_4 = \text{0x20: } 0000$	
$R_5 = \text{0x20: } 0004$	
$R_6 = \text{0x20: } 0008$	
$R_7 = \text{0x20: } 000C$	
:	
$R_{29} = \text{0x0f: } fff0$	
$R_{30} = \text{0x0f: } fff0$	
$R_{31} = \text{0x4fff: } ffff$	
$PC = 0x114 \rightarrow 0x118$	



⑫ 0x118 CPU

$R_2 = \text{0x00112233}$	
$R_3 = 0$	
$R_4 = \text{0x20: } 0000$	
$R_5 = \text{0x20: } 0004$	
$R_6 = \text{0x20: } 0008$	
$R_7 = \text{0x20: } 000C$	
:	
$R_{29} = \text{0x0f: } fff0$	
$R_{30} = \text{0x0f: } fff0$	
$R_{31} = \text{0x4fff: } ffff$	
$PC = 0x118 \rightarrow 0x11c$	



⑬ 0x11c CPU

R ₂	=	0x20:000c
R ₃	=	0
R ₄	=	0x20:0000
R ₅	=	0x20:0004
R ₆	=	0x20:0008
R ₇	=	0x20:000c
⋮		
R ₂₉	=	0x0f:ffff0
R ₃₀	=	0x0f:ffff0
R ₃₁	=	0xfffff:fffff
PC	=	0x11e → 0x120

lw v0 ← [s8+28]
Stack.

0x0f:ffff0 (sp).	← 0x0f:ffff4
0x00112233	← 0x0f:ffff4
⋮	
0x20:0000	← 0x10:0000
0x20:0004	
0x20:0008	
0x20:000c	← 0x10:000c

⑭ 0x120 CPU

R ₂	=	0x20:000c
R ₃	=	0
R ₄	=	0x20:0000
R ₅	=	0x20:0004
R ₆	=	0x20:0008
R ₇	=	0x20:000c
⋮		
R ₂₉	=	0x0f:ffff0
R ₃₀	=	0x0f:ffff0
R ₃₁	=	0xfffff:fffff
PC	=	0x120 → 0x124

nop.
Stack.

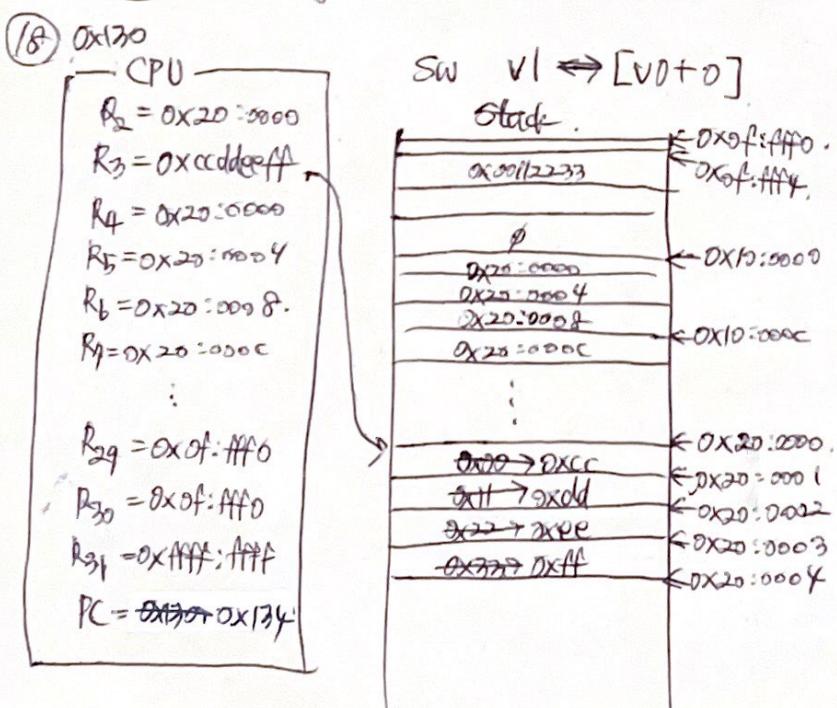
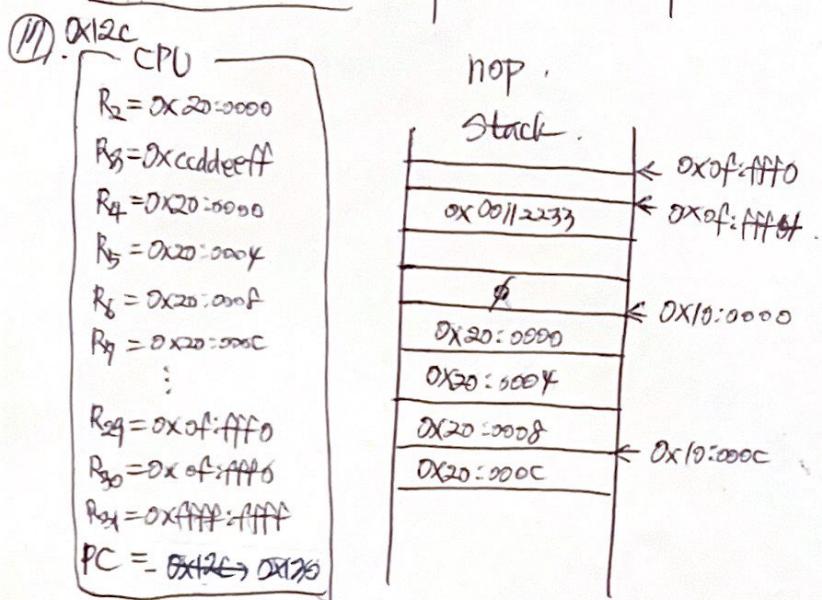
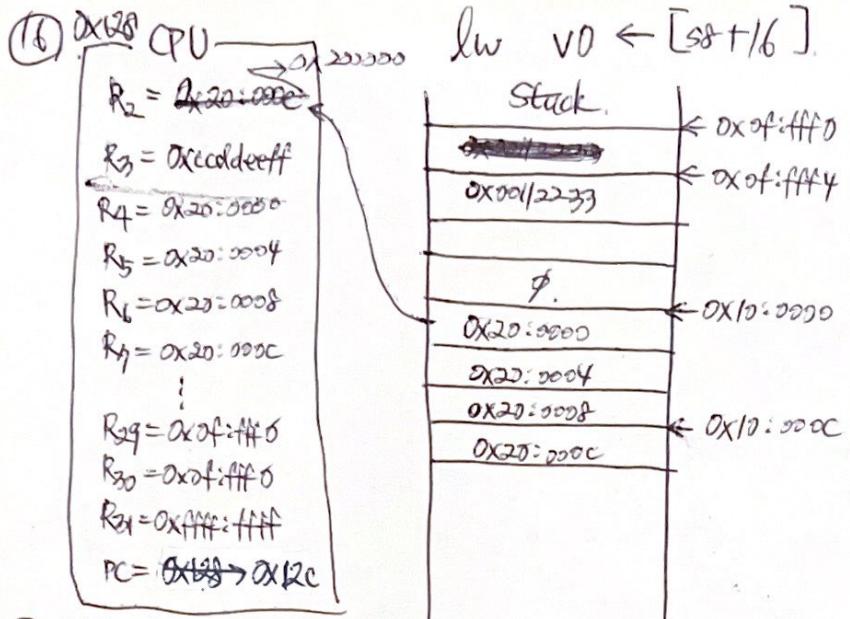
0x0f:ffff0 (sp).	← 0x0f:ffff4
0x00112233	← 0x0f:ffff4
⋮	
0x20:0000	← 0x10:0000
0x20:0004	
0x20:0008	
0x20:000c	← 0x10:000c

⑮ 0x124 CPU

R ₂	=	0x20:000c
R ₃	=	0xccdddeff
R ₄	=	0x20:0000
R ₅	=	0x20:0004
R ₆	=	0x20:0008
R ₇	=	0x20:000c
⋮		
R ₂₉	=	0x0f:ffff0
R ₃₀	=	0x0f:ffff0
R ₃₁	=	0xfffff:fffff
PC	=	0x124 → 0x128

lw v1 ← [v0+0]
Stack.

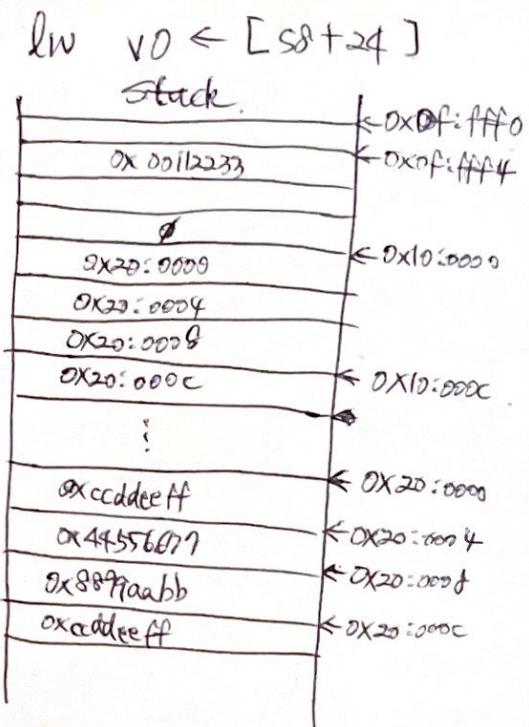
0x0f:ffff0 (sp).	← 0x0f:ffff4
0x00112233	← 0x0f:ffff4
⋮	
0x20:0000	← 0x10:0000
0x20:0004	
0x20:0008	
0x20:000c	← 0x10:000c
⋮	
0x00112233	← 0x20:0000
0x14445677	
0x8899aaab	
0xccdddeff	← 0x20:000c



(19) 0x134

CPU

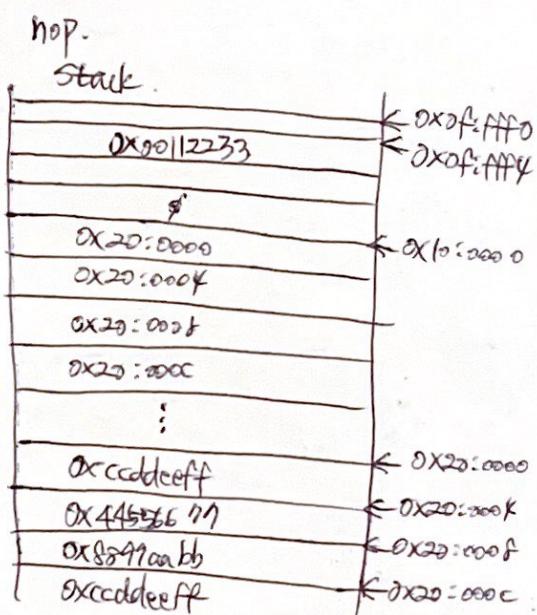
$R_2 = 0x20:0008$
$R_3 = 0xccddeeff$
$R_4 = 0x20:0000$
$R_5 = 0x20:0004$
$R_6 = 0x20:0008$
$R_7 = 0x20:000C$
:
$R_{29} = 0x0f:ffff$
$R_{30} = 0x0f:ffff$
$R_{31} = 0xffff:ffff$
$PC = 0x134 \rightarrow 0x138 -$



(20) 0x138

CPU

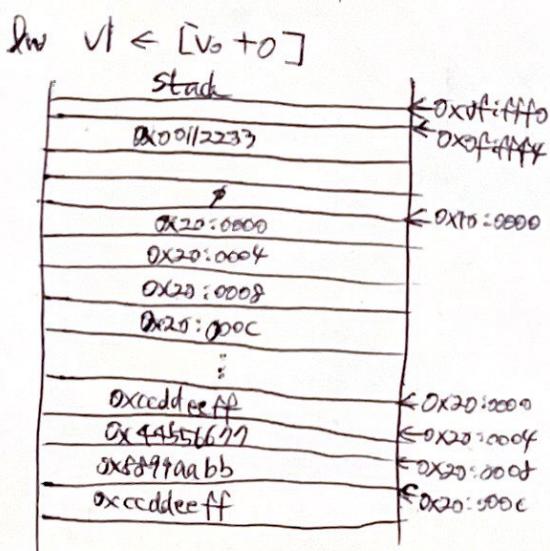
$R_2 = 0x20:0008$
$R_3 = 0xccddeeff$
$R_4 = 0x20:0000$
$R_5 = 0x20:0004$
$R_6 = 0x20:0008$
$R_7 = 0x20:000C$
:
$R_{29} = 0x0f:ffff$
$R_{30} = 0x0f:ffff$
$R_{31} = 0xffff:ffff$
$PC = 0x138 \rightarrow 0x13C -$

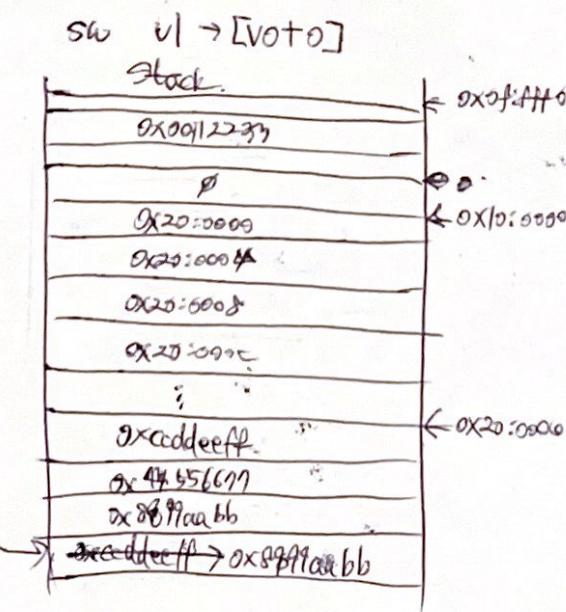
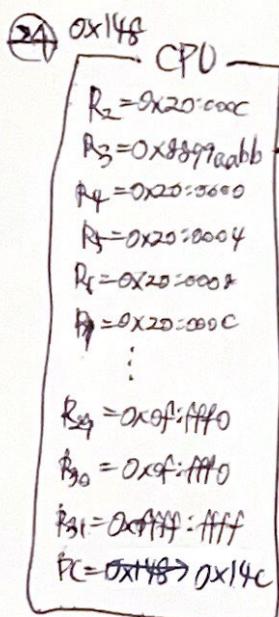
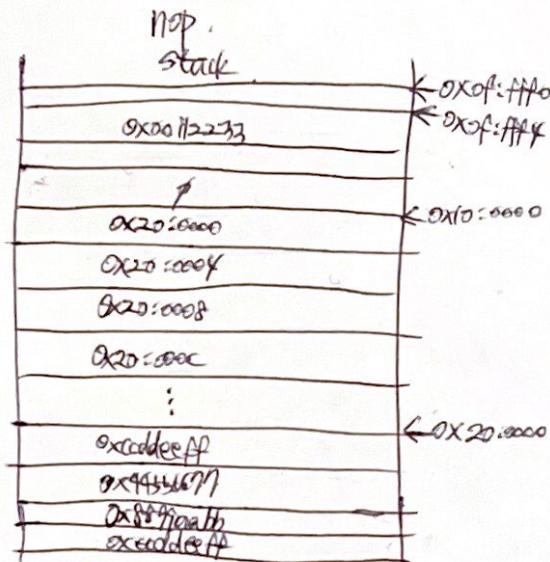
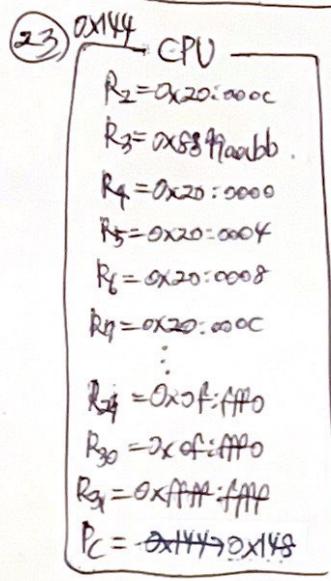
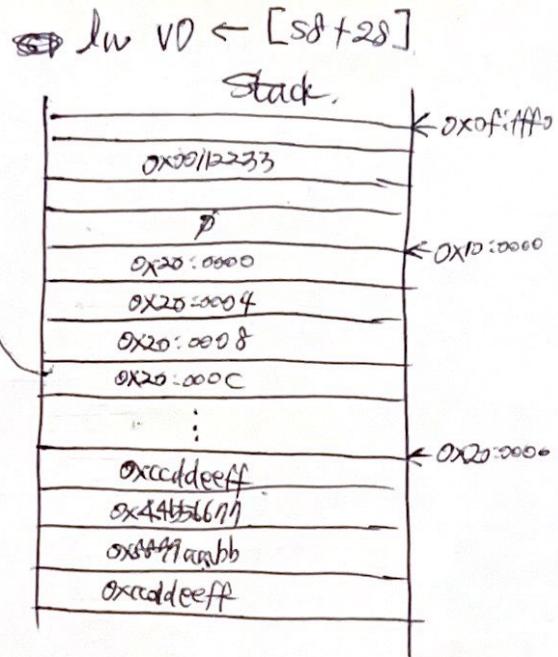
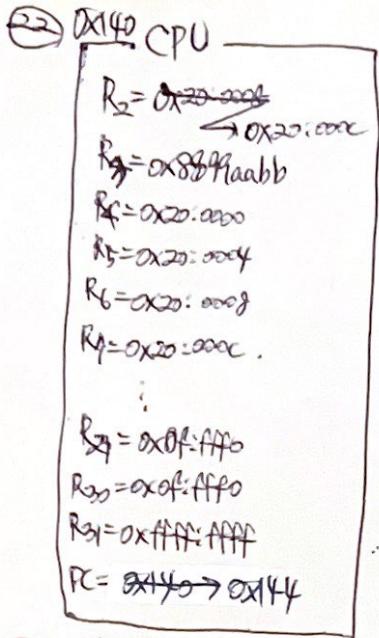


(21) 0x13C

CPU

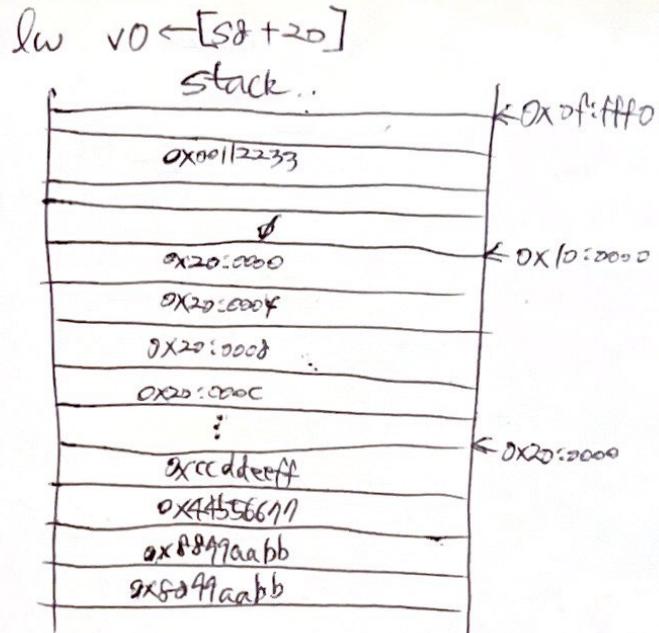
$R_2 = 0x20:0008$
$R_3 = 0xccddeeff$
$R_4 = 0x8899aabbb$
$R_5 = 0x20:0000$
$R_6 = 0x20:0004$
$R_7 = 0x20:0008$
$R_8 = 0x20:000C$
:
$R_{29} = 0x0f:ffff$
$R_{30} = 0x0f:ffff$
$R_{31} = 0xffff:ffff$
$PC = 0x13C \rightarrow 0x140 -$





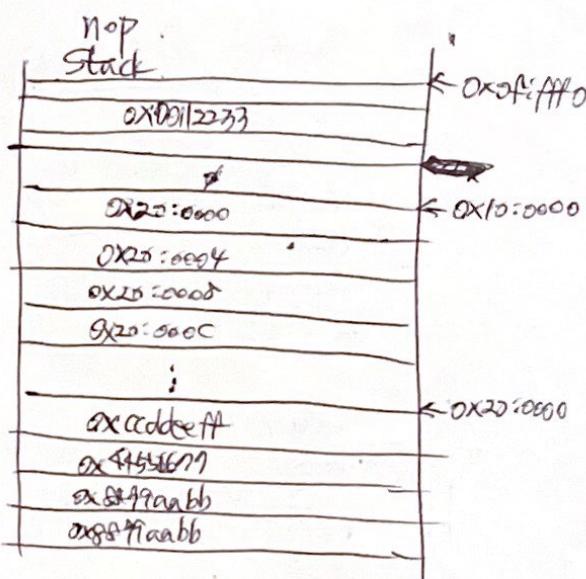
(25) 0x14C CPU

R ₂	=	0x20:0004
R ₃	=	0x8849aabbb
R ₄	=	0x20:0009
R ₅	=	0x20:0004
R ₆	=	0x20:0008
R ₇	=	0x20:000C
:		
R ₂₉	=	0x0f:ffff0
R ₃₀	=	0x0f:ffff0
R ₃₁	=	0xffff:ffff
PC	=	0x14C → 0x150



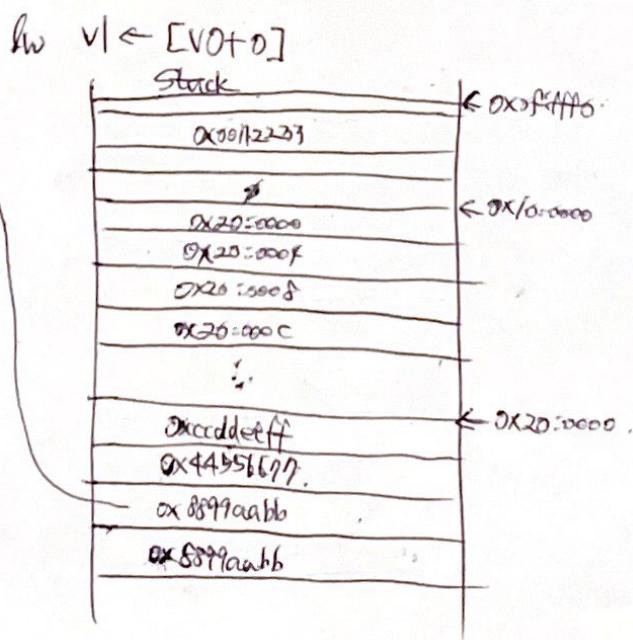
(26) 0x150 CPU

R ₂	=	0x20:0004
R ₃	=	0x8849aabbb
R ₄	=	0x20:0009
R ₅	=	0x20:0004
R ₆	=	0x20:0008
R ₇	=	0x20:000C
:		
R ₂₉	=	0x0f:ffff0
R ₃₀	=	0x0f:ffff0
R ₃₁	=	0xffff:ffff
PC	=	0x150 → 0x154



(27) 0x154 CPU

R ₂	=	0x20:0004
R ₃	=	0x8849aabbb
R ₄	=	0x20:0009
R ₅	=	0x20:0004
R ₆	=	0x20:0008
R ₇	=	0x20:000C
:		
R ₂₉	=	0x0f:ffff0
R ₃₀	=	0x0f:ffff0
R ₃₁	=	0xffff:ffff
PC	=	0x154 → 0x158



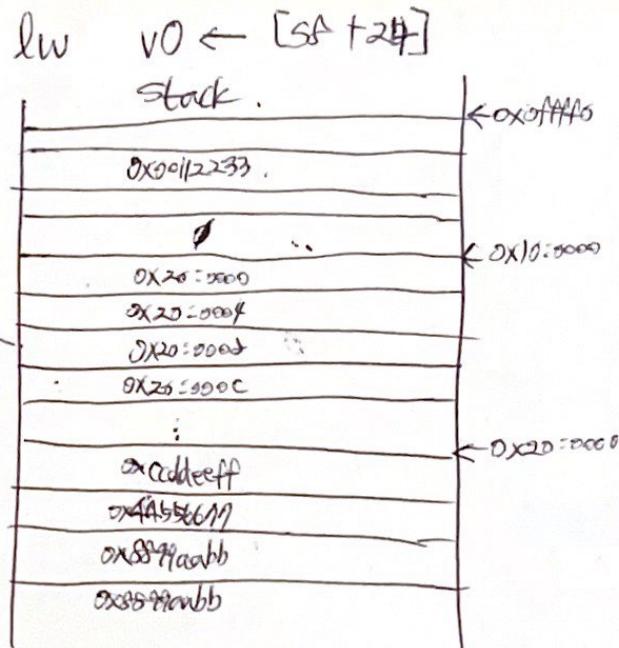
②8) 0x158

CPU

```

R2 = 0x00000000 → 0x20:000000
R3 = 0x44456677
R4 = 0x20:0000
R5 = 0x20:0004
R6 = 0x20:0008
R7 = 0x20:000C
⋮
R24 = 0x0f:ffff
R25 = 0x0f:ffff
R26 = 0xffff:ffff
PC = 0x158 → 0x15c

```



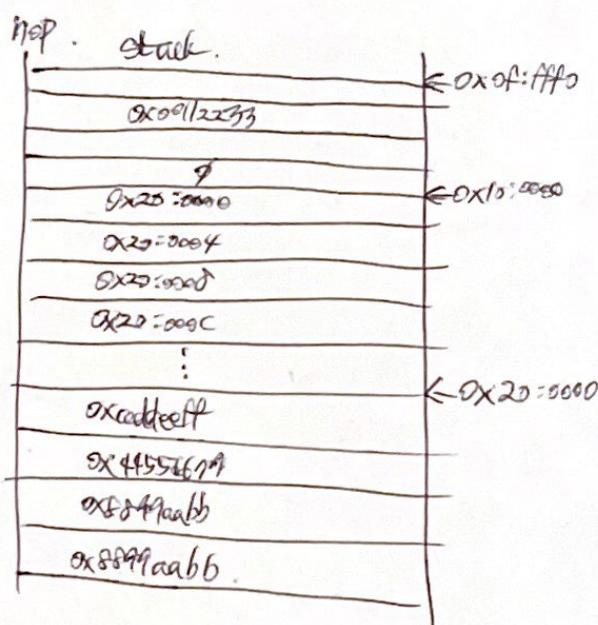
②9) 0x15c

CPU

```

R2 = 0x20:0000
R3 = 0x44456677
R4 = 0x20:0000
R5 = 0x20:0004
R6 = 0x20:0008
R7 = 0x20:000C
⋮
R24 = 0x0f:ffff
R25 = 0x0f:ffff
R26 = 0xffff:ffff
PC: 0x15c → 0x160

```



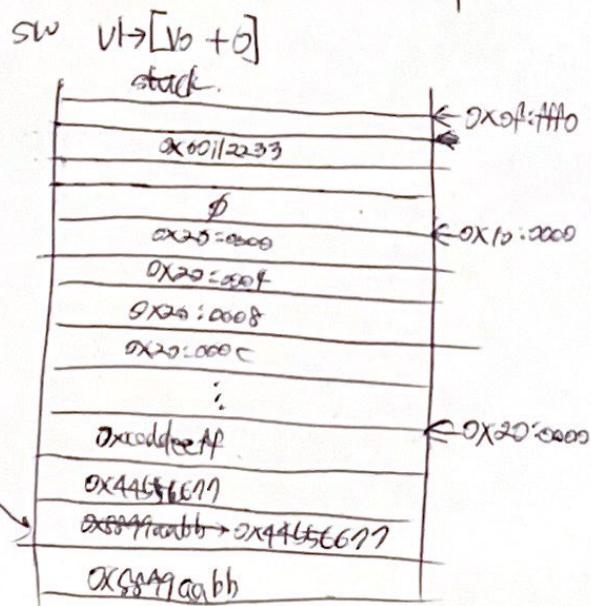
③0) 0x160

CPU

```

R2 = 0x20:0000
R3 = 0x44456677
R4 = 0x20:0000
R5 = 0x20:0004
R6 = 0x20:0008
R7 = 0x20:000C
⋮
R24 = 0x0f:ffff
R25 = 0x0f:ffff
R26 = 0xffff:ffff
PC = 0x160 → 0x164

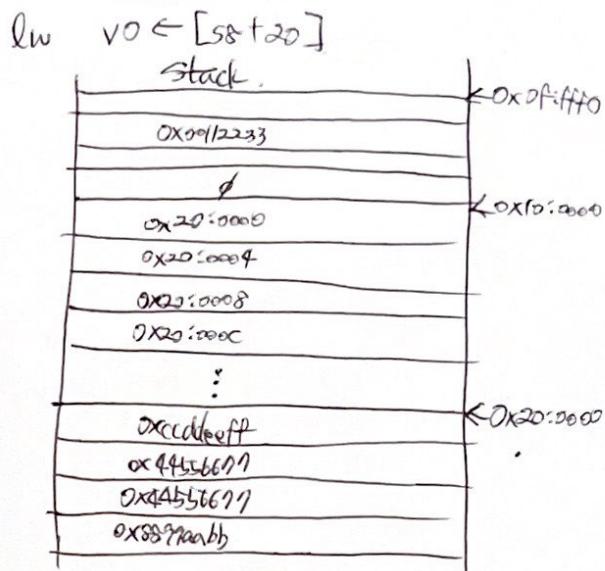
```



③) 0x164

CPU

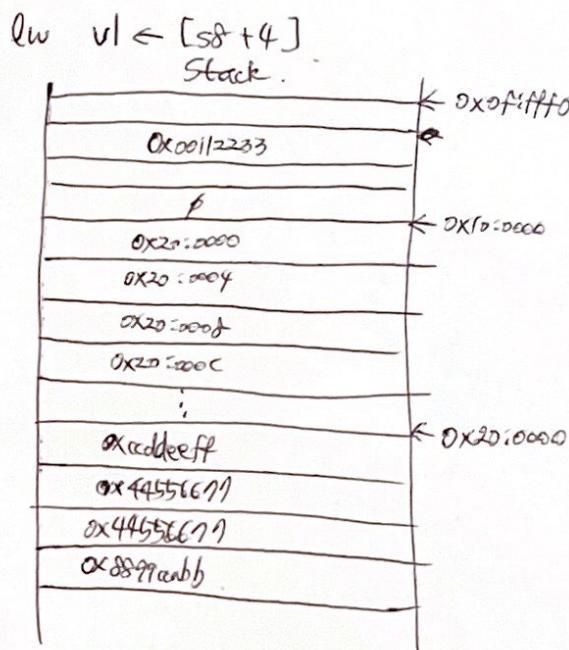
R ₂ = 0x20:0004
R ₃ = 0x44556677
R ₄ = 0x20:0008
R ₅ = 0x20:0004
R ₆ = 0x20:0008
R ₇ = 0x20:000C
⋮
R ₂₉ = 0x2f:ffff
R ₃₀ = 0x2f:ffff
R ₃₁ = 0xffff:ffff
PC = 0x164 → 0x168



④) 0x168

CPU

R ₂ = 0x20:0004
R ₃ = 0x44556677
R ₄ = 0x20:0008
R ₅ = 0x20:0004
R ₆ = 0x20:0008
R ₇ = 0x20:000C
⋮
R ₂₉ = 0x2f:ffff
R ₃₀ = 0x2f:ffff
R ₃₁ = 0xffff:ffff
PC = 0x168 → 0x16c



⑤) 0x16c

CPU

R ₂ = 0x20:0004
R ₃ = 0x00112233
R ₄ = 0x20:0008
R ₅ = 0x20:0004
R ₆ = 0x20:0008
R ₇ = 0x20:000C
⋮
R ₂₉ = 0x2f:ffff
R ₃₀ = 0x2f:ffff
R ₃₁ = 0xffff:ffff
PC = 0x16c → 0x170

