SU19   Q+A
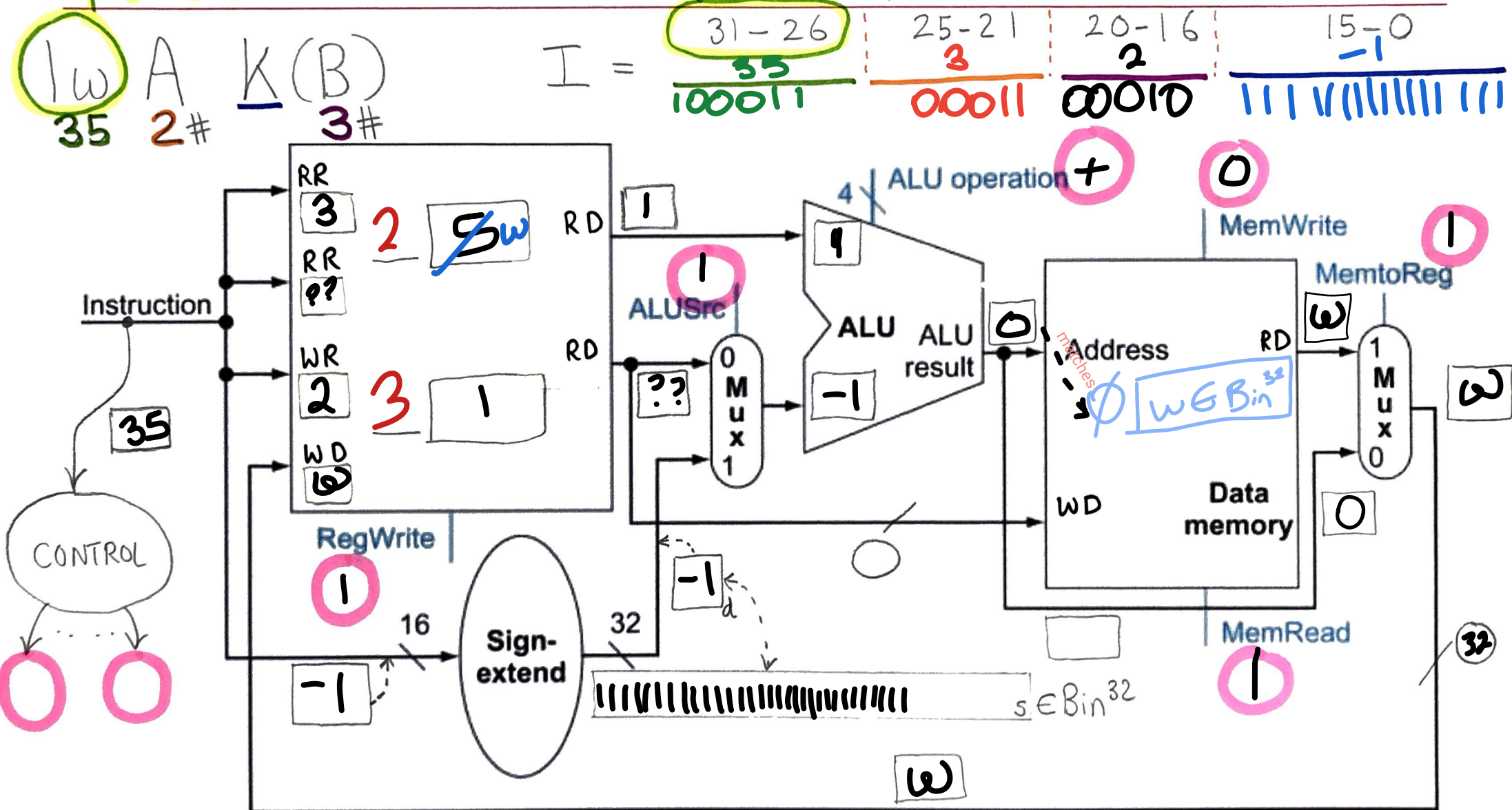
→ D.P. for I Format   (sw R_1 K_d (R_2))

[see also full MIPS processor

video]

Datapath for R-Format and Load/Store Instructions

opcode

(lw) A K(B)

35 2# 3#

31 – 26	25-21	20-16	15-0

I =   35 / 100011   3 / 00011   2 / 00010   -1 / ||||v||||||| |||

+ 0

ALU operation 4

MemWrite 1

RR 3 2 [Sw] RD 1

MemtoReg

RR ?? ALUSrc 1

ALU 4

Instruction

WR 2 3 1 ?? 0 Mux 1 ALU result -1 0 matches Address RD w 1 Mux 0 3

WD 6

0 | WE Bin^32

CONTROL 35

RegWrite 1

WD Data memory 0

MemRead 1 32

16 Sign-extend 32 -1 d -1

-1 |||||||||||||||||||||||||||||| s ∈ Bin^32

w

$A_0 = !W[!B + sx(\vec{b})]$ $K_d = \vec{b}_s$ $!A = 5$ $!B = 1$

a $K_d = \underline{-1}_d$