

2-18-2022 3.2 Problem #1

Pixel = {0x1000, 0x03, 0x56DD23FF3, BaseA = 0x1FC0
Word size = 32 bits, 4 byte wide

	Byte
0x1FC0	0x00
0x1FC1	0x00
0x1FC2	0x00
0x1FC3	0x03
0x1FC4	0x00
0x1FC5	0x00
0x1FC6	0x10
0x1FC7	0x00
0x1FC8	0x56
0x1FC9	0xDD
0x1FCA	0x23
0x1FCB	0xFF

0x1FCE
0x1FCF

2-18-2022 HW#3.2 Problem 2

$$X1 = (r + (t + r)) - y + 5$$

$$y = X1 + y$$

$$X1 \rightarrow \text{word size } X1 \rightarrow \$50$$

$$r = \$51 \quad t = \$52 \quad y = \$53$$

$$y = X1 + y$$

$$\text{Add } \$50, \$52, \$51 \quad (t + r)$$

$$\text{Add } \$t0, \$51, \$50 \quad (r + t) = \$t0$$

$$\text{Sub } \$t1, \$t0, \$53 \quad (t - y) = \$t1$$

$$\text{Addi } \$t2, \$t1, 5 \quad (t + 5) = \$t2$$

2-18-2022 HW#3.2 Problem 3

$$A[5] = A[4] \cdot 4 + B[3]$$

$$A = \$50 \quad 4 = 2^2 \quad A[4] = 4 \cdot 4$$

$$B \rightarrow \text{word size base address} \rightarrow \$t0 \quad A[5] = 5(\text{index}) \cdot 4(\text{word})$$

$$\text{Index } 3 \cdot 4(\text{word size}) = 12 \quad \$t1, 12(\$t0)$$

$$lw \quad \$t1, 12(\$t0) \quad \left\{ \begin{matrix} 2 \\ 2 \end{matrix} \right\} \text{ # of bits}$$

$$sll \quad \$50, \$50, 2$$

$$\text{Add } \$t2, \$50, \$t1$$

$$A[4] \cdot 4 + B[3]$$

$$SW \quad \$t2, 20(\$50) \quad \leftarrow A[5]$$