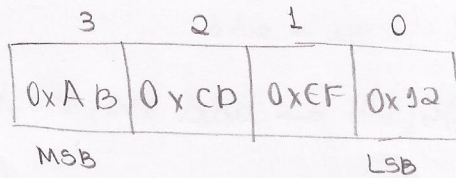


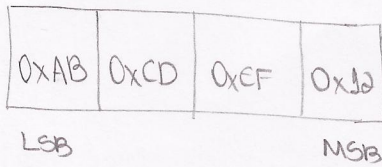
2.7, 2.9, 2.12, 2.14, 2.15, 2.17, 2.18.

2.7)

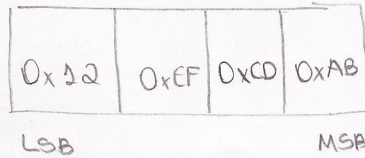


AEX3

Big Endian



Little Endian



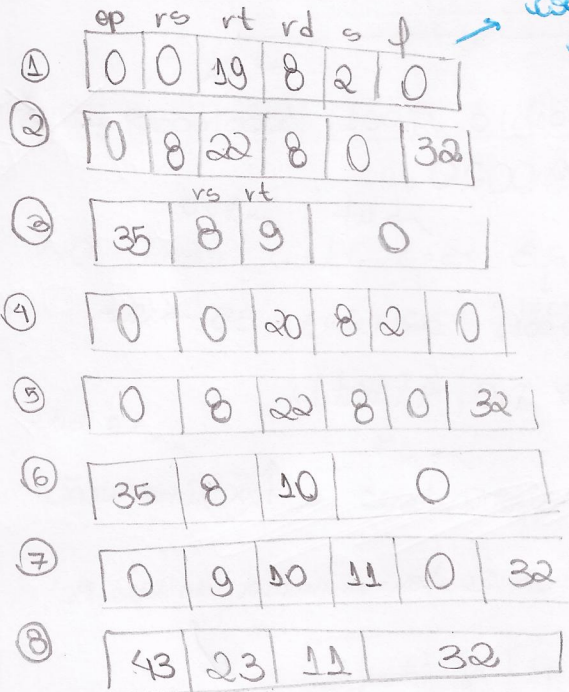
2.9)

$\begin{cases} f \rightarrow \$50 & h \rightarrow \$52 & j \rightarrow \$54 & A[0] = \$56 \\ g \rightarrow \$51 & i \rightarrow \$53 & B[0] = \$57 \end{cases}$

* hipótese: A e B como arrays com 4 palavras por bloco

$$B[8] = A[f] + A[j]$$

$\text{add } \$t0, \$s3, 2 \quad \textcircled{1}$
 $\text{add } \$t0, \$t0, \$56 \quad \textcircled{2}$
 $\text{lw } \$t1, 0(\$t0) \quad \textcircled{3}$
 $\text{add } \$t0, \$s4, 2 \quad \textcircled{4}$
 $\text{add } \$t0, \$t0, \$56 \quad \textcircled{5}$
 $\text{lw } \$t2, 0(\$t0) \quad \textcircled{6}$
 $\text{add } \$t3, \$t1, \$t2 \quad \textcircled{7}$
 $\text{swr } \$t3, 32(\$57), \textcircled{8}$



2.12)

$\$s0 = 0x80000000$

$\$s1 = 0x00000000$

2.12.1)

$\text{add } \$t0, \$s0, \$s1$

$0x50000000$

$$\begin{array}{r} + 1000 \\ 1101 \\ \hline X 0101 \end{array}$$

2.12.2)

Sim.

2.12.3)

$\text{sub } \$t0, \$s0, \$s1$

2.12.4)

Não.

2.12.5)

$$\begin{array}{r} 0x50000000 \\ + 0x80000000 \\ \hline 0x00000000 \end{array}$$

$$\begin{array}{r} + 0011 \\ 1000 \\ \hline 1011 \end{array}$$

$$\begin{array}{r} - \$s1: 110100000000000000000000 \\ 001011111111111111111111 \\ \hline \oplus 001100000000000000000000 \\ 0x30000000 \\ + 0x80000000 \\ \hline 0xB0000000 \end{array}$$

$$\begin{array}{r} 1000 \\ + 0101 \\ \hline 1101 \end{array}$$

2.12.6)

Sim.

2.14)

op	rs	rt
0000	0010	0001

rd	shamt	func
1000	0000	0010

op = 000 000 = 0 " func = $100^4 000^3 = 32 \rightarrow \text{add}$

rs = $10^3 000^2 = 10$ add \$16, \$16, \$16 \leftrightarrow add \$50, \$50, \$50

rt = $10^2 000^1 = 10$

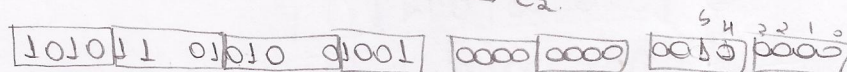
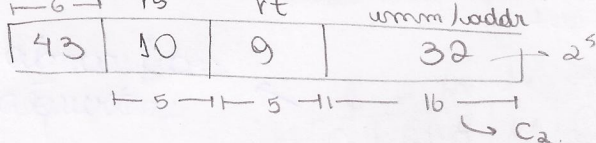
rd = 16 "

shamt = 0

2.15)

op	rt	imm	rs
sw	\$t1	32	\$t2

op = 43 rs = 10 rt = 9 imm = 32



0xAD490020 "

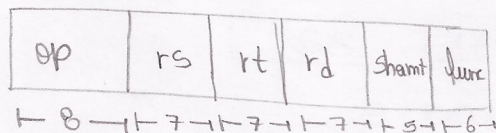
2.17) $\rightarrow \text{at} \rightarrow \$V0$
op = 0x23 rs = 1 rt = 2 cond = 0x4

$0010^5 0011^4 = 32 + 2 + 1 = 35 \rightarrow \text{sw}$

sw \$V0, 4(\$at) "

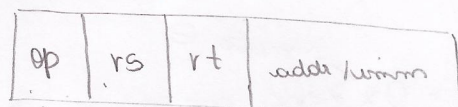
2.18) 128 registradores $\rightarrow 2^7$ e \uparrow (x4) instruções $\rightarrow +2 \text{ bits}$

2.18.1) R: se não for nenhuma do tipo R



$8 + 7 + 7 + 7 + 5 + 6 = 40 \text{ bits}$

2.18.2) I:



$8 + 7 + 7 + 16 = 38 "$

2.18.3) \uparrow tam do programa : \uparrow tamanho das instruções

\downarrow tam do programa : \uparrow registradores e \uparrow instruções $\rightarrow \downarrow$ código