The TAL Instruction Set			
Machine Code	**Assembly Language Format**		**Effect**
1000 11bb bbbt tttt iiii iiii iiii iiii	lw	R_t, I(R_b)	$R_t \leftarrow M[[R_b] + (I_{15})^{16} \parallel I_{15..0}]$
1000 00bb bbbt tttt iiii iiii iiii iiii	lb	R_t, I(R_b)	$R_t \leftarrow m[[R_b] + (I_{15})^{16} \parallel I_{15..0}]_7)^{24} \parallel m[[R_b] + (I_{15})^{16} \parallel I_{15..0}]$
1001 00bb bbbt tttt iiii iiii iiii iiii	lbu	R_t, I(R_b)	$R_t \leftarrow 0^{24} \parallel m[[R_b] + (I_{15})^{16} \parallel I_{15..0}]$
1010 11bb bbbt tttt iiii iiii iiii iiii	sw	R_t, I(R_b)	$R_t \rightarrow M[[R_b] + (I_{15})^{16} \parallel I_{15..0}]$
1010 00bb bbbt tttt iiii iiii iiii iiii	sb	R_t, I(R_b)	$[R_t]_{7..0} \rightarrow m[[R_b] + (I_{15})^{16} \parallel I_{15..0}]$
0000 00ss ssst tttt dddd d000 0010 0000	add	R_d, R_s, R_t	$R_d \leftarrow [R_s] + [R_t]$
0000 00ss ssst tttt dddd d000 0010 0010	sub	R_d, R_s, R_t	$R_d \leftarrow [R_s] - [R_t]$
0000 00ss ssst tttt 0000 0000 0001 1000	mult	R_s, R_t	$HI \parallel LO \leftarrow [R_s] * [R_t]$
0000 00ss ssst tttt 0000 0000 0001 1010	div	R_s, R_t	$LO \leftarrow [R_s]div[R_t]$; $HI \leftarrow [R_s]mod[R_t]$
0000 00ss ssst tttt dddd d000 0010 0001	addu	R_d, R_s, R_t	$R_d \leftarrow [R_s] + [R_t]$, (overflow ignored)
0000 00ss ssst tttt dddd d000 0010 0011	subu	R_d, R_s, R_t	$R_d \leftarrow [R_s] - [R_t]$, (overflow ignored)
0000 00ss ssst tttt 0000 0000 0001 1001	multu	R_s, R_t	$HI \parallel LO \leftarrow [R_s] * [R_t]$, (overflow ignored)
0000 00ss ssst tttt 0000 0000 0001 1011	divu	R_s, R_t	$LO \leftarrow [R_s]div[R_t]$;$HI \leftarrow [R_s]mod[R_t]$ (overflow ignored)
0000 00ss ssst tttt dddd d000 0010 0100	and	R_d, R_s, R_t	$R_d \leftarrow [R_s]$ **AND** $[R_t]$
0000 00ss ssst tttt dddd d000 0010 0111	nor	R_d, R_s, R_t	$R_d \leftarrow [R_s]$ **NOR** $[R_t]$
0000 00ss ssst tttt dddd d000 0010 0101	or	R_d, R_s, R_t	$R_d \leftarrow [R_s]$ **OR** $[R_t]$
0000 00ss ssst tttt dddd d000 0010 0110	xor	R_d, R_s, R_t	$R_d \leftarrow [R_s]$ **XOR** $[R_t]$