

AM 2900 EVAL Board Worksheet by Al Williams.											Read Memory								R/W Mem		Data		Output		Title:	
Use Control+Alt+Shift+0 to clear program, Control+Alt+Shift+2 to hide entry fields, Control+Alt+Shift+1 to show entry fields																									Load BCD byte in R1:R0 -> R2:R1	
:Label (use colon)	Address	Branch	Next	MUX	DEST	SRC	CARRY	ALU	A	B	D	B7	B6	B5	B4	B3	B2	B1	B0	Comments						
	0		CONTINUE		F->RAM (F)	D 0		R OR S		!ILSD	#Digit0		0010	0011	0111	0011		0000	0110	6->R0						
	1		CONTINUE		F->RAM (F)	D 0		R OR S		!IMSD	#Digit1		0010	0011	0111	0011		0001	0111	7->R1						
	2		CONTINUE		F->Q	D 0		R OR S				0	0010	0000	0111	0011			0000	0->Q						
	3		CONTINUE	2 - Doubl	2F, 2Q->RAM,Q	0 B		R OR S		!RES0			0010	1110	0011	0011		0001		Q,R1=2*R1						
	4		CONTINUE		F->RAM (F)	0 A		R OR S	!RES0	!TEMP0			0010	0011	0100	0011	0001	0011		R1->R3						
	5		CONTINUE		F->RAM (F)	0 Q		R OR S		!TEMP1			0010	0011	0010	0011		0100		Q->R4 (R4:R3=2x)						
	6		CONTINUE	2 - Doubl	2F, 2Q->RAM,Q	0 B		R OR S		!RES0			0010	1110	0011	0011		0001		x4						
	7		CONTINUE	2 - Doubl	2F, 2Q->RAM,Q	0 B		R OR S		!RES0			0010	1110	0011	0011		0001		x8						
	8		CONTINUE		F->RAM (F)	A B		R+S	!TEMP0	!RES0			0010	0011	0001	0000	0011	0001		R1+R3->R1 (8x+2x=10x)						
	9	:CYR2A	BR CY		F->RAM (F)	A Q		R+S	!TEMP1	!RES1		1110	1111	0011	0000	0000	0100	0010		R4+Q->R2						
:CONT1	A		CONTINUE		F->RAM (F)	A B		R+S	!ILSD	!RES0			0010	0011	0001	0000	0000	0001		R0+R1->R1 (add in LSB)						
	B	:CYR2B	BR CY		None							1111	1111	0001						Handle carry						
:DISP	C		CONTINUE		F->RAM (F)	0 B		R OR S		!RES0			0010	0011	0011	0011		0001		Loop forever (show R1)						
:DISP	D	:DISP	BRANCH		F->RAM (F)	0 B		R OR S		!RES1		1100	0001	0011	0011	0011		0010		Loop forever (show R2)						
:CYR2A	E	:CONT1	BRANCH		F->RAM (F)	0 B	1	R+S		!RES1		1010	0001	0011	0011	1000		0010		Bump R2 for carry						
:CYR2B	F	:DISP	BRANCH		F->RAM (F)	0 B	1	R+S		!RES1		1100	0001	0011	0011	1000		0010		Bump R2 for carry						

Register Table	Register #	Comment	Constants	Value (hex digit)	Comment	Shift Mux
Name (with !)			Name (with #)			0 - Shift
!ILSD	0	Least sig. Input	#Digit0	6		1 - Rotate
!IMSD	1	Most sig. Input (see also !RES0)	#Digit1	7		2 - 2x Rotate
!RES1	2	High result nibble				3 - 2x Arith Shift
!TEMP0	3	Hold 2x (low)				
!TEMP1	4	Hold 2x (high)				
	5					
	6					
	7					
	8					
	9					
	A					
	B					
	C					
	D					
	E					
	F					
!Extras below this line						
!RES0	1	Low result nibble				