

Test Cases					
Test #	Instruction	Code	Expected Result	Test Condition	Success?
1	MOV AL r0,#1 ADD AL r1,r0 SYS AL	4001 0110 9800	reg1 = 1	Register dependence	yes
2	MOV AL r0,#4 ADD AL r0,r1 SYS AL	4004 0101 9800	reg0 = 4	Register dependence	yes
3	MUL S r0,#0 MOV EQ r1,#1 ADD AL r1,r0 SYS AL	4a00 4411 0110 9800	reg1 = 1	Conditional and register dependencies	yes
4	MOV S r0,#0 MOV NE r1,#2 MOV AL r1,#4 MOV AL r0,r1 SYS AL	4200 4612 4014 4101 9800	reg0 = 4	Conditional and register dependencies	yes
5	MOV AL r0,#2 MOV AL r1,#5 MOV S r2,#0 MUL EQ r0,r1 MOV AL r2,r0 SYS AL	4002 4015 4220 4d01 4120 9800	reg2 = 10	Conditional dependencies and multiplication	yes
6	MOV AL r0,#5 MOV AL r1,#1 STR AL r0,[r1] LDR AL r2,[r1] SYS AL	4005 4011 7901 3921 9800	reg2 = 5	Memory dependence	yes
7	MOV AL r0,#6 MOV AL r1,#1 MOV S r2,#0 STR EQ r0,[r1] LDR AL r3,[r1] SYS AL	4006 4011 4220 7d01 3931 9800	reg3 = 6	Conditional and memory dependencies	yes
8	ADD AL r0, #6 ADD AL r1, #1 MOV AL r15, #6 SYS AL SYS AL SYS AL ADD AL r1, r0 ADD AL r0, #5 ADD AL r0, #6 ADD AL r0, #5 ADD AL r1, r0	0006 0011 40f6 9800 9800 9800 0110 0005 0006 0005 0110	reg0 = 22 reg1 = 29	Jumps	yes

9	MOV AL r3, #7 MOV AL r0, #1 SUB S r3, r0 MOV EQ r15, #6 ADD NE r1, #1 MOV AL r15, #1 MOV AL r2, #42 SYS AL	4037 4001 8b30 44f6 0611 40f1 c002 402a 9800	reg0 = 1 reg1 = 6 reg2 = 42 reg3 = 0	Jumps with loop	yes
10	PRE AL #1 PRE AL #2 ADD AL r0, #1 SYS AL	c001 c002 0001 9800	reg0=33	Two PRE's in a row	yes
11	ITOF AL r0,#6 ITOF AL r1,#0 ITOF AL r2,#-3 ITOF AL r3,#-7 SYS AL	3006 3010 302d 3039 9800	reg0 = 4'x40c0 reg1 = 4'x0 reg2 = 4'xc040 reg3 = 4'c0e0	Int to float conversion	yes
12	ITOF AL r0,#42 ITOF AL r1,#-117 SYS AL	c002 300a cff8 301b 9800	reg0 = 0x4228 reg1 = 0xc2ea	Int to float conversion with 'long' constants (C>7 or C<-8)	yes
13	ITOF AL r0,#6 MOV AL r1, #0 FTOI AL r2, r0 SYS AL	3006 4010 2920 9800	reg0 = 4'x40c0 reg2 = 4'x0006	Float to int conversion	yes
14	ITOF AL r0,#-117 MOV AL r1, #0 FTOI AL r2, r0 SYS AL	cff8 300b 4010 2920 9800	reg0 = 4'xc2ea reg2 = 4'xff8b	Float to int conversion with negative constants and 'long' constants	yes
15	ITOF AL r0,#5 ITOF AL r1, #6 MULF AL r0, r1 FTOI AL r2, r0 SYS AL	3005 3016 5101 2920 9800	reg0 = 16'b0100000111110000 reg1 = 16'b0100000011000000 reg2 = 16'b0000000000011110	Floating point multiplication	yes
16	ITOF AL r0,#-10 ITOF AL r1,#7 MULF AL r0, r1 FTOI AL r2, r0 SYS AL	cfff 3006 3017 5101 2920 9800	reg0 = 16'b1100001010001100 reg1 = 16'b0100000011100000 reg2 = 16'b1111111110111010	Floating point multiplication between positive and negative value	yes

17	ITOF AL r0,#-21 ITOF AL r1,#-20 MULF AL r0, r1 FTOI AL r2, r0 SYS AL	cffe 300b cffe 301c 5101 2920 9800	reg0 = 16'b0100001111010010 reg1 = 16'b1100000110100000 reg2 = 16'b0000000110100100	Floating point multiplication between 'long' negative values	yes
18	ITOF AL r0,#5 RECF AL r1,r0 SYS AL	3005 6910 9800	reg0 = 16'b0100000010100000 reg1 = 16'b0011101101001100	Floating point reciprocal	no; lack of precision
19	ITOF AL r1, #-50 FTOI AL r0, r1 SYS AL	cffc 301e 2901 9800	reg0 = 16'b1111111111001110 reg1 = 16'b1100001001001000	Float to int conversion for a 'long' negative value	yes
20	ITOF AL r0,#300 ITOF AL r1,#500 ADDF AL r0,r1 SYS AL	c012 300c c01f 3014 0901 9800	reg0 = 4'x4448	Floating point addition on 'long' positive values	yes
21	ITOF AL r0,#-13 ITOF AL r1,#55 ADDF AL r0,r1 SYS AL	cfff 3003 c003 3017 0901 9800	reg0 = 4'x4228	Floating point addition between a positive and a negative	yes
22	ITOF AL r0,#-1 ITOF AL r1,#2 ITOF AL r2,#-3 ITOF AL r3,#4 ADDF AL r0,r1 ADDF AL r0,r2 ADDF AL r0,r3 FTOI AL r3,r0 SYS AL	300f 3012 302d 3034 0901 0902 0903 2930 9800	reg3 = 2	Floating point addition	yes
23	ITOF AL r0,#1 ITOF AL r1,#-2 SUBF AL r0,r1 FTOI AL r3,r0 SYS AL	3001 301e 9101 2930 9800	reg3=3	Floating point subtraction	yes

24		300b			
		3014			
		302d			
		3032			
	ITOF AL r0,#-5	0901			
	ITOF AL r1,#4 ITOF	5102			
	AL r2,#-3 ITOF AL	9303			
	r3,#2 ADDF AL	e001			
	r0,r1 MULF AL	4431			
	r0,r2 SUBF S r0,r3	3630			
	MOV EQ r3, #17	5323			
	ITOF NE r3, #0	2d30			
	MULF S r2, r3 FTOI	e002	reg0 = 42	Float instructions with conditional dependeceies and PRE's	yes
	EQ r3, r0 ADD EQ	0409	reg2 = 0		
	r0,#41 SYS AL	9800	reg3 = 1		