	PC_en	IF_ID_en	C_en	Z_en	RegWrite	PC_mux	IR_mux	BALU2_mux	RF_a2_mux	FTB_bar	ALU2_mux	ALU1_mux	T1_mux	T2_mux	mem_data_in_mux	Rf_d3_mux	RF_a3_mux	MemWrite	MemRead
ADD	1	1	1	1	1	00	00	0	0	0	000	000	000	000	0	00	00	0	0
ADC	1	1	1.C	1.C	1.C	00	00	0	0	0	000	000	000	000	0	00	00	0	0
ADZ	1	1	1.Z	1.Z	1.Z	00	00	0	0	0	000	000	000	000	0	00	00	0	0
ADI	1	1	1	1	1	00	00	0	0	0	001	000	000	000	0	00	01	0	0
NDU	1	1	0	1	1	00	00	0	0	0	000	000	000	000	0	00	00	0	0
NDC	1	1	0	1.C	1.C	00	00	0	0	0	000	000	000	000	0	00	00	0	0
NDZ	1	1	0	1.Z	1.Z	00	00	0	0	0	000	000	000	000	0	00	00	0	0
LHI	1	1	0	0	1	00	00	0	0	0	000	000	000	000	0	10	10	0	0
LW	1	1	0	1	1	00	00	0	0	0	001	111	000	000	0	01	10	0	1
SW	1	1	0	0	0	00	00	0	0	0	001	111	000	000	0	00	00	1	0
LM	valid2_bar	1	0	0	1	00	01.valid2	0	0	FTB_bar	111	001.(FTB_bar)	001.(FTB_bar)	000	0	01	11	0	1
SM	valid2_bar	1	0	0	0	00	01.valid2	0	1	FTB_bar	111	001.(FTB_bar)	001.(FTB_bar)	000	1	00	00	1	0
BEQ	1	1	0	0	0	01.eq_T1	10.eq_T1_T2	1	0	0	000	000	000	000	0	00	00	0	0
JAL	1	1	0	0	1	01	10	0	0	0	000	000	000	000	0	11	10	0	0
JLR	1	1	0	0	1	10	10	0	0	0	000	000	000	000	0	11	10	0	0
NOP (1111...)	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Forward till			EX	EX	WB										Mem	Mem	Mem		
			FTB = (ID/EX(opc)==LM | ID/EX(opc)==SM) & ID/EX(valid2)																
			NOP used only in BEQ																