STATE	MEMORY(5)	RB(6)	ALUY(9)	ALUX(1)	PC(3)	R7(2)	TA(3)	TB(2)	TC(2)	TD(1)	IR(1)	TY	NS	CONTROL WORD
S1	00101	000000	000000000	1	100	00	000	00	00	0	1	NS	S2	001010000000000000011000000000001
S2	00000	010000	000000000	0	000	00	010	01	00	0	0	NS	S3	0000001000000000000000000010010000
S3	00000	000000	011000001	0	000	00	011	00	00	0	0	NS	S4	00000000001100000100000011000000
S4	00000	001001	000000000	0	000	00	000	00	00	0	0	DEC (BC/IB)		000000100100000000000000000000000000000
S5	00000	000000	010000001	0	000	00	011	00	00	0	0	NS	S4	000000000010000001000000011000000
S6	00000	000000	010010001	0	000	00	011	00	00	0	0	NS	S4	000000000010010001000000011000000
S7	00000	001111	000000000	0	000	00	000	00	00	0	0	IB		000000011110000000000000000000000000000
S8	00000	000000	100000000	0	000	00	011	00	00	0	0	NS	S9	000000000010000000000000011000000
S9	00001	000000	000000000	0	000	00	001	00	00	0	0	NS	S10	0000100000000000000000000001000000
S10	00000	001101	000000000	0	000	00	000	00	00	0	0	IB		000000011010000000000000000000000000000
S11	01010	000000	000000000	0	000	10	000	00	00	0	0	IB		01010000000000000000001000000000
S12	00000	000000	000000000	0	000	00	000	11	00	0	0	NS	S13	00000000000000000000000000000110000
S13	00001	000000	000000000	0	000	00	000	10	10	1	0	NS	S14	0000100000000000000000000000101010
S14	00000	000110	011010000	0	000	00	011	00	00	0	0	BC		0000000011001101000000000011000000
S15	00000	000000	000000000	0	000	00	000	10	00	1	0	NS	S16	0000000000000000000000000000000000100010
S16	00000	100000	000000000	0	000	00	000	00	01	0	0	NS	S17	000001000000000000000000000000000000000
S17	10010	000000	000000000	0	000	10	100	00	00	0	0	BC		100100000000000000000010100000000
S18	00000	110000	011000110	0	000	00	010	00	00	0	0	BC		0000011000001100011000000010000000
S19	00000	000000	010100000	0	110	01	000	00	00	0	0	IB		00000000001010000001100100000000
S20	00000	110000	000000000	0	000	00	000	00	01	0	0	NS	S21	000001100000000000000000000000000000000
S21	00000	001110	110110000	0	110	01	000	00	00	0	0	IB		00000001110110110000011001000000000
S22	00000	001110	000000000	0	101	11	000	00	00	0	0	IB		0000000111000000000010111000000000
S23	00000	010000	000000000	0	000	00	010	11	00	0	0	NS	S3	0000001000000000000000000010110000
S24	00000	000000	000000000	0	001	00	000	00	00	0	0	IB		0000000000000000000000100000000000
S25	00000	000000	000000000	0	000	10	000	00	00	0	0	IB		0000000000000000000000010000000000
							NS: Next State	BC: Branch Co	ontrol	IB:Instruction	n Branch			
							DEC: Decoder							