AD	Step	EXT_FLAG	MAddr_MUX	MData_MuX	MEM_WR	LP_MUX	LP_WR	G_MUX	G_WR	Q_MUX	Q_WR	B_MUX	B_WR	A_MUX	A_WR	Y_MUX	Y_WR	X_MUX	X_WR	Z_MUX Z_WR	ALU_OP
pulse 1	Mem(PC) into B		0									0	) 1								
	Mem(S) into X Load A into Y		1													1	1 1	0	1		
pulse 4	A = ALU(X,Y,add)													1	1						ADD
	Set EXT flag to 0 Load PC into X	0																1	1		
pulse 7	Load 1 into Y															2	2 1				100
SU	Z = ALU(X,Y,add)																			1 1	ADD
pulse 1	Mem(PC) into B		0									0	1						1		
	Mem(S) into X Load A into Y		1													1	1 1	0	1		
pulse 4	A = ALU(X,Y,sub)													1	1						SUB
	Set EXT flag to 0 Load PC into X	0																1	1		
pulse 7	Load 1 into Y															2	2 1				100
pulse 8 MASK	Z = ALU(X,Y,add)																			1 1	ADD
pulse 1	Mem(PC) into B		0									0	1								
	Mem(S) into X Load A into Y		1													1	1 1	0	1		
pulse 4	A = ALU(X,Y,and)													1	1						AND
	Set EXT flag to 0 Load PC into X	0																1	1		
pulse 7	Load 1 into Y															2	2 1				
pulse 8	Z = ALU(X,Y,add)																			1 1	ADD
pulse 1	Mem(PC) into B		0									0	) 1								
	Mem(S) into A Load Inv(A) into A		1					0	0 1					0 2							
pulse 4	Set EXT flag to 0	0																			
	Load PC into X Load 1 into Y															2	2 1	1	1		
pulse 7	Z = ALU(X,Y,add)																			1 1	ADD
XCH pulse 1	Mem(PC) into B		0									0	1								
pulse 2	Load mem(S) into G		1					0	0 1												
	Load A into mem(S) Load G into A			0	1									3	3 1						
pulse 5	Set EXT flag to 0	0	)											Ĭ							
pulse 6	Load PC into X																1	1	1		
pulse 8	Load 1 into Y $Z = ALU(X,Y,add)$															2	2 1			1 1	ADD
MP			0										1								
	Mem(PC) into B Mem(S) into X		0									0						0	) 1		
pulse 3	Load A into Y															1	1 1				
	LP = ALU(X,Y,mp0) $A = ALU(X,Y,mp1)$					1	1							1	1 1						MP0 MP1
pulse 6	Set EXT flag to 0	0	,																		
	Load PC into X Load 1 into Y															2	1	1	1		
pulse 9	Z = ALU(X,Y,add)																2			1 1	ADD
DIV pulse 1	Mem(PC) into B		0									0	0 1								
pulse 2	Mem(S) into X		1									Ĭ						0	1		
	Load A into Y $Q = ALU(X,Y,mp0)$					1	1									1	1 1				MP0
pulse 5	A = ALU(X,Y, mp1)						,							1	1						MP0 MP1
pulse 6	Set EXT flag to 0	0																1	1		
	Load PC into X Load 1 into Y															2	2 1	1	1		
pulse 9	Z = ALU(X,Y,add)																			1 1	ADD
TS pulse 1	Mem(PC) into B		0									0	1								
pulse 2	Load A into mem(S)			0	1																
	Set EXT flag to 0 Load PC into X	0																1	1		
pulse 5	Load 1 into Y															2	2 1				
pulse 6	Z = ALU(X,Y,add)																			1 1	ADD
pulse 1	Mem(PC) into B		0									0	1								
	Mem(S) into A Load S into X		1											0	1			2	2 1		
pulse 4	Load 1 into Y															2	2 1				
	B = ALU(X,Y,ADD) $Mem(S+1) into X$											1	1 1					0	) 1		ADD
	Mem(S+1) into X Load A into Y															1	1 1				
pulse 8	A = ALU(X,Y,add)			6	1									1	1						ADD
	Load A into mem(S+1) Set EXT flag to 0	0		0	1																
pulse 11	Load PC into X																	1	1		
	Load 1 into Y $Z = ALU(X,Y,add)$															2	2 1			1 1	ADD
TC																					
	Mem(PC) into B Load Z into Q		0							2	1	0	1								
pulse 3	Load B into Z																			2 1	
	Set EXT flag to 0 Load PC into X	0																1	1		
	Load 1 into Y															2	2 1				
pulse 7	Z = ALU(X,Y,add)																			1 1	ADD
css pulse 1	Mem(PC) into B		0									0	1								
pulse 2	Load Mem(S) into A		1											0	1						
	Load 1,2,3,4 into Y Load Z into X															3	3 1	2	2 1		
pulse 5	Z = ALU(X,Y,add)																			1 1	ADD
	Load 0,1 into Y Load A,~A into X															4	1 1	3	3 1		
pulse 8	A =ALU(X,Y,add)													1	1 1						ADD
pulse 9	Set EXT flag to 0	0																			
ĺ																					