







								100 ns									200 ns										300 r	is								48	30 ns						
DATAPATH																																											
ALUCtrl[3:0] =00	00+ 0010	8888		0016	8888			20	10 00	80			8918	6669				9919	8888				9919	6699				0110	0000				1001	0000			810	8 6666				9191	0000
ALUSrc =x																																											
EX_MEM[31:0] =0	Ø XXX	7 0			21	0		/5	28	)5			.0	(-9	8				4	)5	0		/4	)-5	/4			20	)7	20			( )	112 /4			112	)1	112			16	101
MEM_WB[31:0] =0	0	XXX 7	9			21	0		/5	28	(5			0	-9	0				4	)5	0		/4	/-5	4			20	(7	20		)(	1 )11	.2 4			112	)1	112			16
MemToReg =0																																											
PCSrc=0																																											
PC[31:0] =00	00400000		9949998				00400008				6646	998C				0040001	)				004000	14				004000	18				0040001	C	)		66	400020				00400	0024		
RegWrite =0																																											
BackData[31:0] =0	0	XXX 7	)a			21	9		,5	28	5			0	<del>/-</del> 9	0				4	)5	0		4	<u>)</u> -5	4			20	7	20		) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	1 )11	.2 (4			112	)1	112			16
Zero=0																																											
alu_op1[31:0] =XX								7				0					21					)4					28					7				)-9					112		
alu_op2[31:0] =XX		0		XXX 21		XXX		21				XXX	-9		XXX		0	-17		0		/-9					21					4				112					21		
_result[31:0] =XX	XXX 7	8		21	0			(5 )21	5			0	-9	0				4	5	9		/4	/-5	)4			20	7	20			4	112	1		112	(1	(112			)16	101	(16
clk=0																																											
currentPC[31:0] =00			9949998				00400008				6646	996C				6646691	9				884888	14				004000	18				0040001	C			60	400020				00400	3024		
dAddress[31:0] =0		7 0			21	0		)5	28	)5			)8	(-9	)8				/4	)5	)8		/4	)-5	/4			28	)7	28			()	112 4			112	(1	112			16	101
ReadData[31:0] =XX																																											
~iteData[31:0] =XX				XXX				21				XXX					0					(-9					)21					/4				112					21		
imm[31:0] =xx		3000000000000000	0000000111		986986986986			000000000	00000000	30000000000			1111111111						1111111111			0000000	,000000000	000000000	00000200		000000	000000000	00000010000	0000020				3969969966				986986986					000000000000
imm_B[31:0] =xx		30000000000001	99899869869	0000000000000	900000000000	00000010				1000000000			1111111111						1111111111					000000000					00000110000					30000000001				0000000010			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		000000000000
$imm_I_L[31:0] = xx$		3036036036036	00000000111	000000000000000	986986986986	00010101				30000000000			11111111111						11111111111					000000000					00000010000					39969969966				9999999999					0000000000000
imm_S[31:0] =xx		300000000000000000000000000000000000000	90000000001	0000000000000	986986986986	00000010				300000000			1111111111						1111111111					000000000					00000010000					300000000001				0000000000					0000000000000
instr[31:0] =xx	xx+ 6695695	301110000000000	90010010011	0000000101010	1869869986991	00010011		66996699669	00000100	9001101100	11	)11111	111011100	3000000001	900010011	>+	11111111	181111000	100000010	10010011		9000000	0001000010	0100000110	00110011		010000	0000100001	1000001110	3110011		99999999	01010011100	31010000110	9011	(0000)	0000010000	0010001001	.001011001	.1	000000	0000100100	00100010100
loadPC =x																																											
eadData1[31:0] =XX								7				0					21					)4					)28					.7				<u>,-9</u>					112		
eadData2[31:0] =XX				XXX				21				XXX					/8					<u> </u>					)Z1					4				)112					21		
readReg1[4:0] =XX				Mary				(2				0					V-					)5					)3 <sup>-</sup>					<u>/</u>									)6 )a		
readReg2[4:0] =XX				XXX				2				XXX					/15					) <del>4</del>					12					Þ				),8					<u> </u>		
rst=1 writeReg[4:0] =XX																																									Yin		

			500 ns					600																						
			500 NS					000	ns							, A	10 ns								300 ns					
0101 0	000				1000	8866			0001	8888			1010	9899			0010	9999			0010	9999							9991	6666
112 16 1	01 (16		)96		0	48 0			16	60	16		1	) 5	(1		0	4	0			4	0		XXX	80		XXX	8	86
112 (1	6 101	16	96			0 (4:	8 0			16	60	16		)1	(-5	) <u>i</u>		)8	4	9			4	0		XXX	80	XX	X	0
00400024		00400028		)0040002C			V004	00030				00400034				00400038				00400030				00400040				00400044		
10+00024		00400026		00400020			(604	00030				00400034				004000000				00100030				00100010				00100014		
112 (1	6 101	16	196			0 4	8 0			/16	60	16		)1	Y-5	)1		a	4	a			96	0		XXX	88	XX	X	0
					1																									
+)112		(1	01	96				48				)-9				4								(1	.2			88		
+)21		(1	.12	)1				28				)1				96	0		96		0			X	X -49		XXX	0	22	
r)16 (101 (1	6	)9	6	0	48	0		/16	)60	16		)1	-5	)1			.4	8			/4	9		X	X 80		XXX	0	86	16
00400024		00400028		0040002C			684	00030				00400034				00400038				00400030				00400040				00400044		
112 (16 (1	01 )16		)96		8	48 Ø			16	60	16		)1	)-5	(1		0	/4	8			4	0		XXX	80		XXX	8	86
XXX																							96	XXX						
+ 21			.12	)1				28				)1				96					8				Х			0		
9969969969969969	02000200020010		000000000000000000000000000000000000000			00000000000			66996699669				90000000000000				0000000000000									111111111111				0000000000000
00000000000000000000			0000000000000000000010000000110			9969969969			66996699669				90000000000000				000000000000				9999999999999					111111111011				000000001000
00000000000000000000			000000000000000000000000000000000000000			99699869966			0000000000				300000000000000				000000000000				80000000000000					111111111111				0000000000000
00000000000000000000			000000000000000000000000000000000000000			000000000000			00000000000				30000000000000				99869869866				89869986998698					111111111111				000000000000000000000000000000000000000
+ 00000000000100100010	0010100110011		00000000100001010111010110110110011	. 00000000	100101011	10101100011	0011	98699	00000110110	9011001101	10110011	)016	0000001001001	.00101011100	3110011	998	000001011001	010100000	999199911		9000000000000	01010100111	10000011		1111010011	01000111100	000010011	00	00000101101	00001101000
+)112		)1	01	)96				48				)-9				/4								)i	2			88		
+)21			12	Y1				28				)1				96					0			5	х			0		
1/8		/1		11				)12				/4				S								(8				(16		
8)2		/8		)9				)3				)9				11					0			X	х			22		
0/10		Yı	1	12				Y13				14				-					15			71				17		



