

# **Single Cycle MIPS Processor**

Team number: 3

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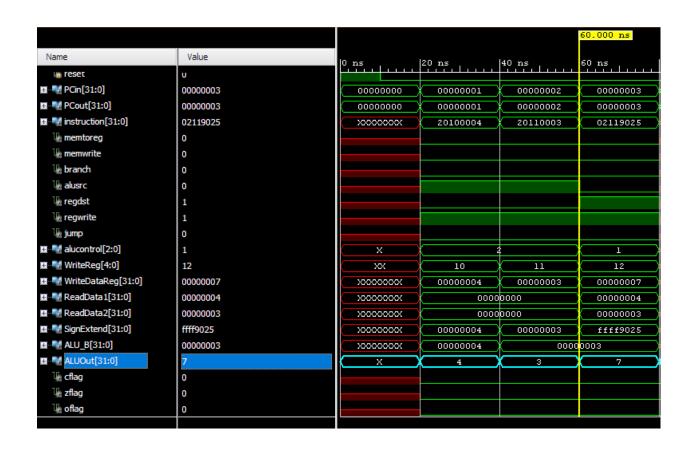
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```
//Test case 0

ROM[0] = 32'b00100000001000000000000000000000000; //ADDI $s0, $zero, 4

ROM[1] = 32'b00100000000100010000000000011; //ADDI $s1, $zero, 3

ROM[2] = 32'b000000100001000110010000001011; //OR $s2, $s0, $s1
```

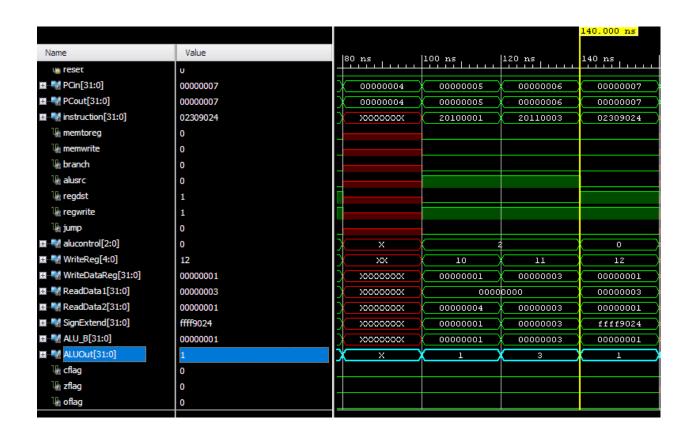


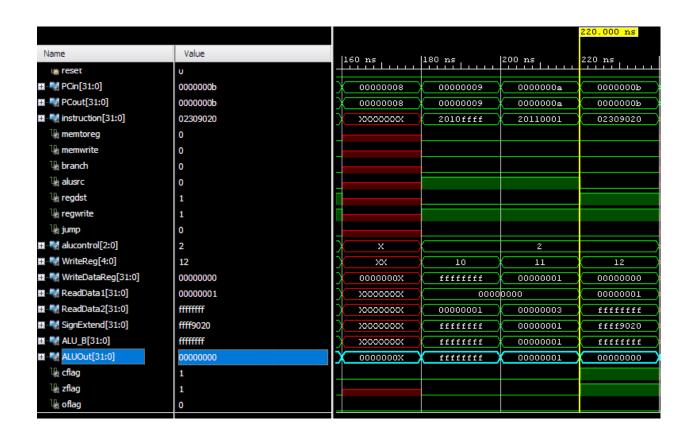
```
//Test case 1

ROM[4] = 32'b00100000000000000000000000000001; //ADDI $50, $zero, 1

ROM[5] = 32'b001000000000000000000000000001; //ADDI $51, $zero, 3

ROM[6] = 32'b0000001000110000100100000010000; //AND $52, $51, $50
```





```
//Test case 3

ROM[12] = 32'b001000000001000000000000000000; //ADDI $50, $zero, 8

ROM[13] = 32'b0010000000010001000000000000001; //ADDI $51, $zero, 1

ROM[14] = 32'b00000010001000100100000010010; //SUB $52, $50, $51
```

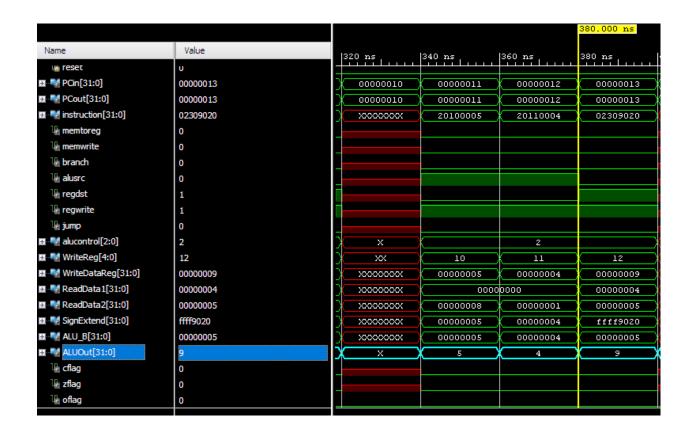
					300.000 ns
Name	Value	240 ns	260 ns	280 ns	300 ns
i reset	υ				
⊞ - 🦬 PCin[31:0]	0000000f	0000000c	000000004	0000000e	0000000f
■ PCout[31:0]	0000000f	0000000c	00000000	0000000e	0000000f
■ ■ instruction[31:0]	02119022	XXXXXXXX	20100008	20110001	02119022
Va memtoreg	0				
<b>™</b> memwrite	0				
¹⅓ branch	0				
Va alusrc	0				
V₀ regdst	1				
V₀ regwrite	1				
¼ jump	0				
III → III alucontrol[2:0]	6	×	2		6
■ WriteReg[4:0]	12	××	10	11	12
■ WriteDataReg[31:0]	00000007	XXXXXXXX	00000008	00000001	00000007
⊞ 📲 ReadData1[31:0]	00000008	XXXXXXXX	0000	0000	00000008
⊞ 🥞 ReadData2[31:0]	00000001	XXXXXXXX	ffffffff	0000	0001
SignExtend[31:0]  ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	ffff9022	XXXXXXXX	00000008	00000001	ffff9022
■    ■ ALU_B[31:0]	00000001	XXXXXXXX	00000008	0000	0001
ALUOut[31:0]	7	X	8	1	7
୍ଲ cflag	0				
Va zflag	0				
∜ oflag	0				

```
//Test case 4

ROM[16] = 32'b00100000000100000000000000101; //ADDI $s0, $zero, 5

ROM[17] = 32'b0010000000010001000000000000000; //ADDI $s1, $zero, 4

ROM[18] = 32'b000000100011000010010000001; //ADD $s2, $s1, $s0
```



```
//Test case 5

ROM[20] = 32'b0010000000010000000000001100100; //ADDI $50, $zero, 100

ROM[21] = 32'b00100000000100010000000111110100; //ADDI $51, $zero, 500

ROM[22] = 32'b0000001000010001001000000010010; //SUB $52, $50, $51
```

