COL216 2.4

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New Features added

- Now ConditionChecker module handles all condition codes

- Error fixed for Fset flag, Now it is set to predicate in (state 2) instead of being set to 1. This prevents instructions like cmpeq to set flag if predicate is false

Test Programs

test1.s

```
@@ abs r1 , r2
mov r2 , #1
cmp r2, #0
movge r1, r2
rsblt r1, r2, #0

signal MEMORY : MEM := ( 0 => X"E3A02001",
1 => X"E3520000",
2 => X"A1A01002",
3 => X"B2621000",
others => X"00000000"
);
```
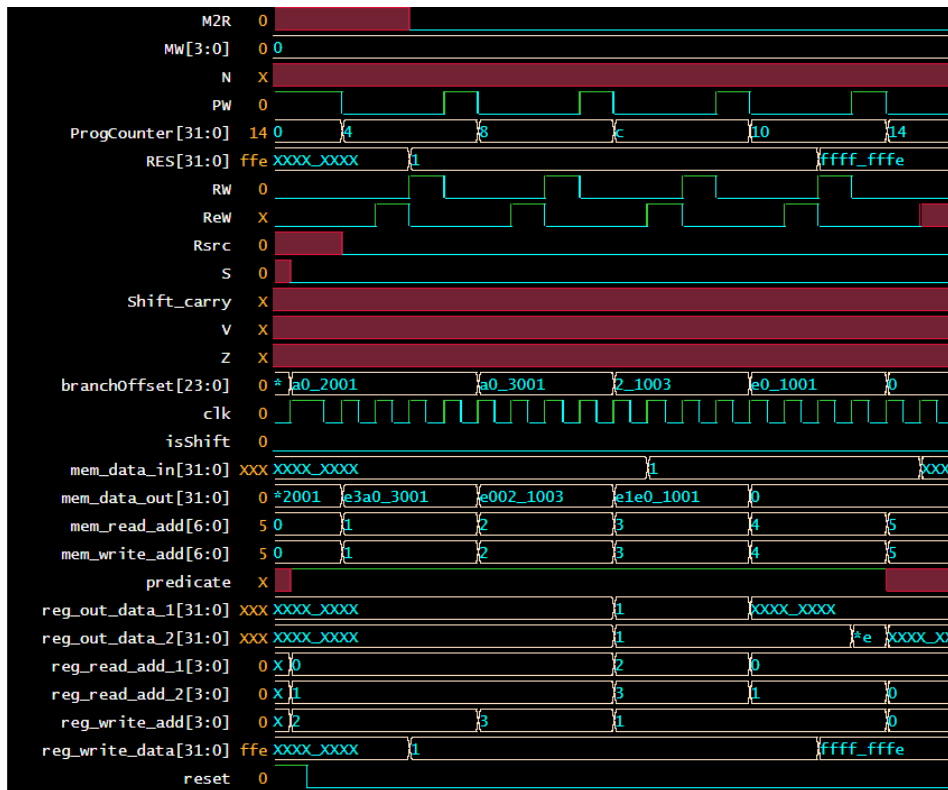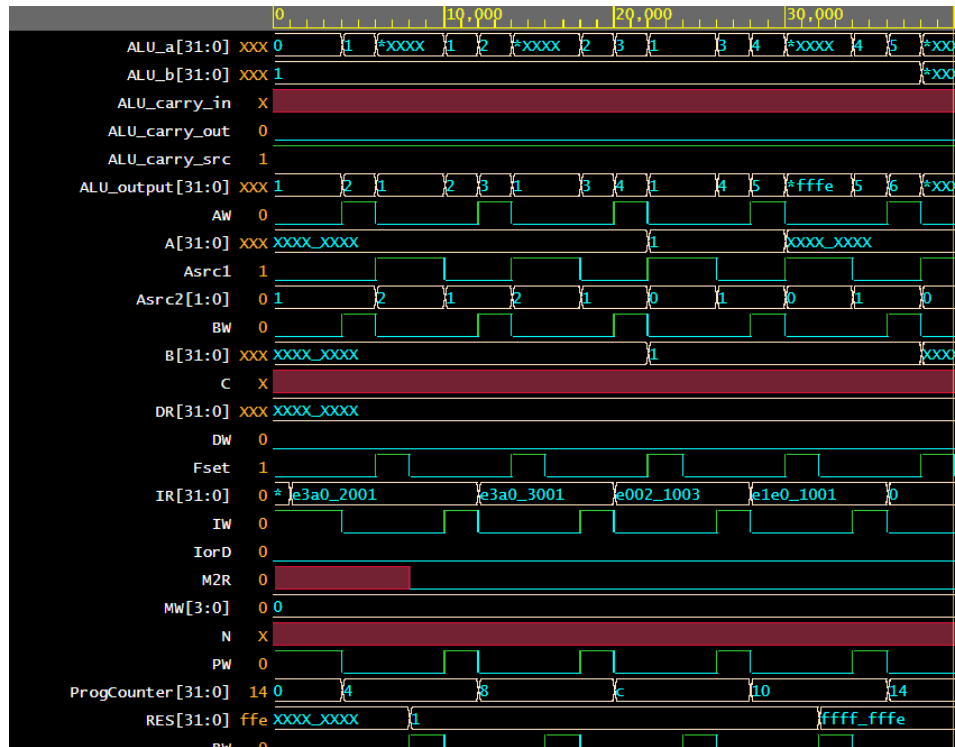
EP WAVE

test2.s

```
@@ nand r1, r2, r3
mov r2 , #1
mov r3 , #1
and r1, r2 , r3
mvn r1, r1

signal MEMORY : MEM := ( 0 => X"e3a02001",
1 => X"e3a03001",
2 => X"e0021003",
3 => X"e1e01001",
others => X"00000000"
);
```
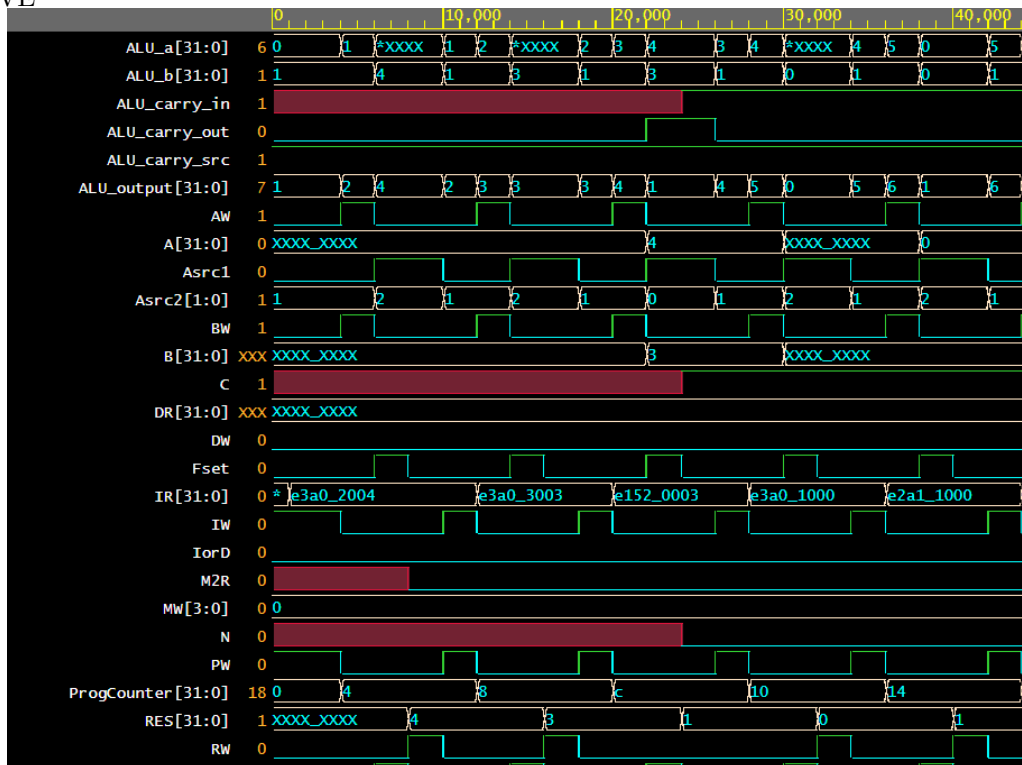
EP WAVE

test3.s

```
@@ sgeu r1, r2, r3
mov r2 , #4
mov r3 , #3
cmp r2, r3
mov r1, #0
adc r1, r1, #0


signal MEMORY : MEM := ( 0 => X"e3a02004",
1 => X"e3a03003",
2 => X"e1520003",
3 => X"e3a01000",
4 => X"e2a11000" ,
others => X"00000000"
);
```
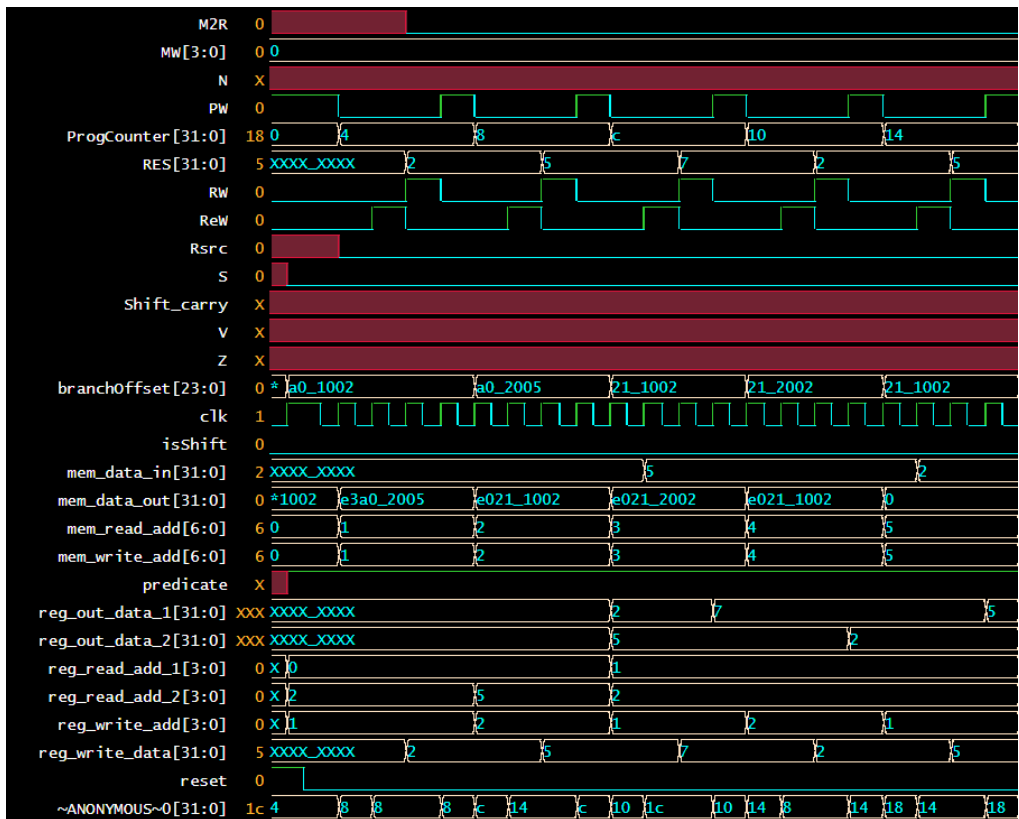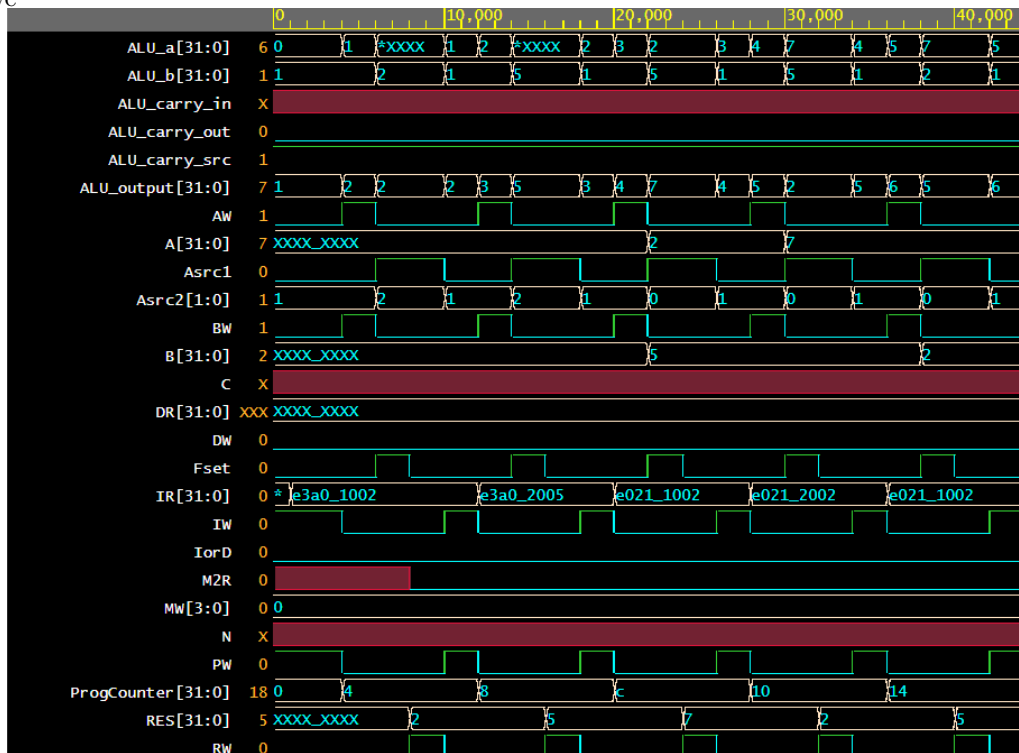
EP WAVE

test4.s

```
@@ swap r1, r2
mov r1 , #2
mov r2 , #5
eor r1, r1, r2
eor r2, r1, r2
eor r1, r1, r2


signal MEMORY : MEM := ( 0 => X"e3a01002",
1 => X"e3a02005",
2 => X"e0211002",
3 => X"e0212002",
4 => X"e0211002" ,
others => X"00000000"
);
```
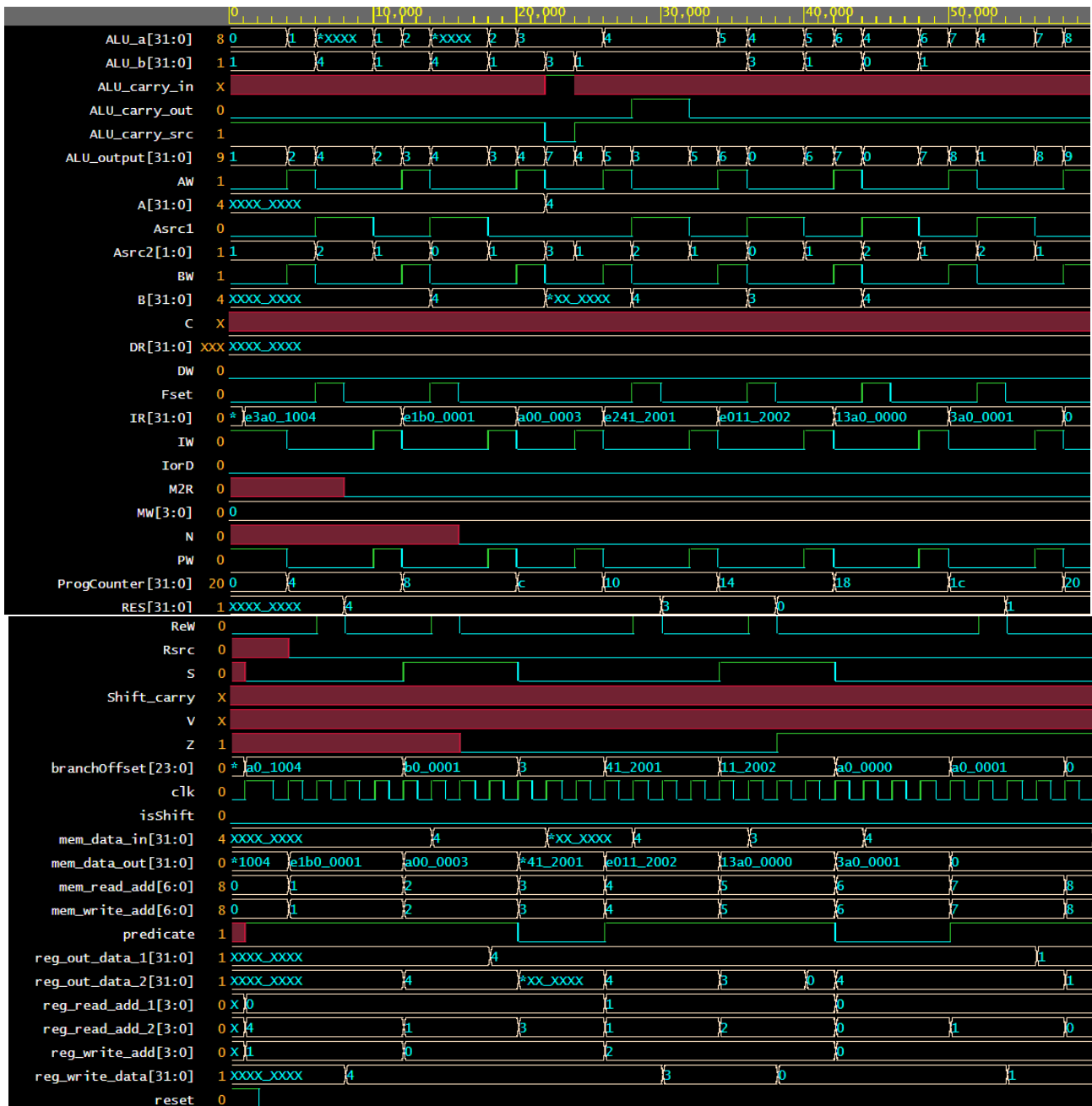
EP Wave

test5.s

```
@@ check if power of two
mov r1 , #4
movs r0, r1
beq out
sub r2, r1, #1
ands r2, r1, r2
movne r0, #0
moveq r0, #1
out:

signal MEMORY : MEM := ( 0 => X"e3a01004",
1 => X"e1b00001",
2 => X"0a000003",
3 => X"e2412001",
4 => X"e0112002" ,
5 => x"13a00000" ,
6 => x"03a00001" ,
others => X"00000000"
);
```

EP Wave

test6.s

```
mov r1 , #4
mov r2 , #3
cmp r1 , r2
rscs r3 , r1, r2
sbceq r4 , r1, r2


signal MEMORY : MEM := ( 0 => X"e3a01004",
1 => X"e3a02003",
2 => X"e1510002",
3 => X"e0f13002",
4 => X"00c14002" ,
others => X"00000000"
);
```
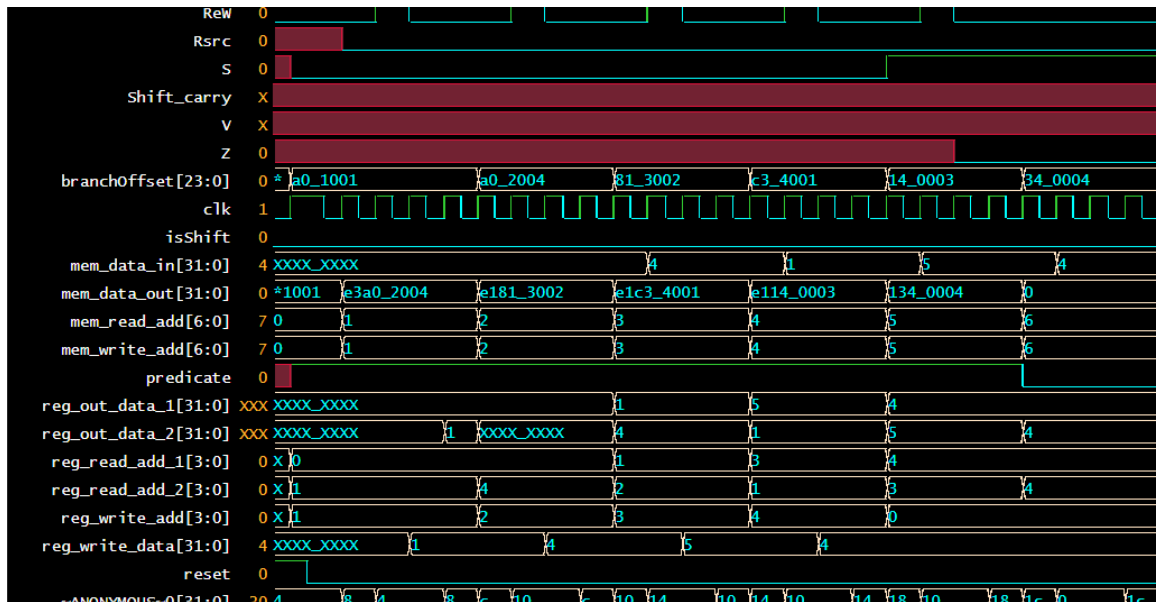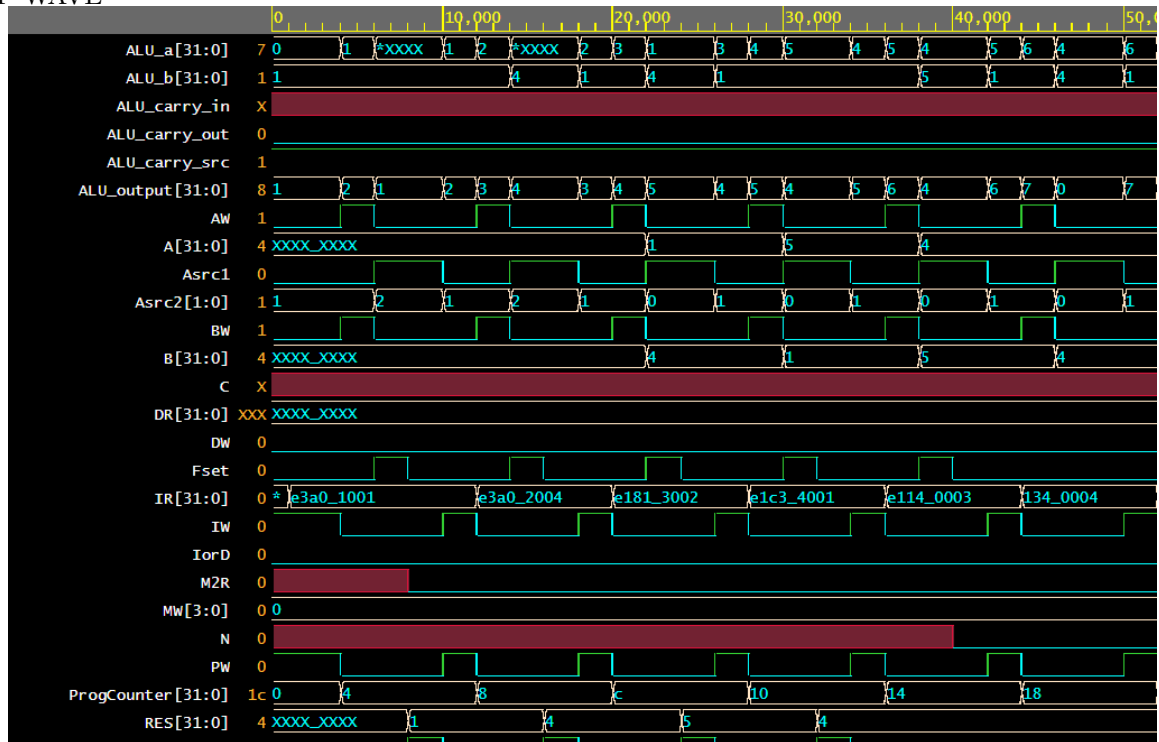
EP Wave

test7.s

```
mov r1, #1
mov r2, #4
orr r3, r1, r2
bic r4 , r3, r1
tst r4, r3
teqeq r4, r4


signal MEMORY : MEM := ( 0 => X"e3a01001",
1 => X"e3a02004",
2 => X"e1813002",
3 => X"e1c34001",
4 => X"e1140003" ,
5 => X"01340004" ,
others => X"00000000"
);
```

EP WAVE

Two additional tests were performed in the previous stage (2.3), and were included in the report where load, store, compare, add etc where tested