

MacbookPro:Pipesim Life\$./run.sh

printout for the 3 forwarding settings on instruction.txt

Starting...

Forwarding is disabled.

Loading application...instruction.txt

Read file completed!!

Printing Application:

ADD r1 r2 r3

SUB r2 r3 r4

MULT r3 r1 r5

DIV r4 r3 r6

LW r5 r4

SW r5 r7

BNEZ r7 r8

Initializing pipeline...

Cycle	IF	ID	EXEC	MEM	WB
0	*	*	*	*	*
1	ADD r1 r2 r3	*	*	*	*
2	SUB r2 r3 r4	ADD r1 r2 r3	*	*	*
3	MULT r3 r1 r5	SUB r2 r3 r4	ADD r1 r2 r3	*	*
4	DIV r4 r3 r6	MULT r3 r1 r5	SUB r2 r3 r4	ADD r1 r2 r3	*
5	DIV r4 r3 r6	MULT r3 r1 r5	*	SUB r2 r3 r4	ADD r1 r2 r3
6	LW r5 r4	DIV r4 r3 r6	MULT r3 r1 r5	*	SUB r2 r3 r4
7	LW r5 r4	DIV r4 r3 r6	*	MULT r3 r1 r5	*
8	LW r5 r4	DIV r4 r3 r6	*	*	MULT r3 r1 r5
9	SW r5 r7	LW r5 r4	DIV r4 r3 r6	*	*
10	SW r5 r7	LW r5 r4	*	DIV r4 r3 r6	*
11	SW r5 r7	LW r5 r4	*	*	DIV r4 r3 r6
12	BNEZ r7 r8	SW r5 r7	LW r5 r4	*	*
13	BNEZ r7 r8	SW r5 r7	*	LW r5 r4	*
14	BNEZ r7 r8	SW r5 r7	*	*	LW r5 r4
15	*	BNEZ r7 r8	SW r5 r7	*	*
16	*	*	BNEZ r7 r8	SW r5 r7	*
17	*	*	*	BNEZ r7 r8	SW r5 r7
18	*	*	*	*	BNEZ r7 r8
19	*	*	*	*	*

Completed in 18 cycles.

Starting...

Forwarding is enabled with window size set to 1.

Loading application...instruction.txt

Read file completed!!

Printing Application:

ADD r1 r2 r3

SUB r2 r3 r4

MULT r3 r1 r5

DIV r4 r3 r6

LW r5 r4

SW r5 r7

BNEZ r7 r8

Initializing pipeline...

Cycle	IF	ID	EXEC	MEM	WB
0	*	*	*	*	*
1	ADD r1 r2 r3	*	*	*	*
2	SUB r2 r3 r4	ADD r1 r2 r3	*	*	*
3	MULT r3 r1 r5	SUB r2 r3 r4	ADD r1 r2 r3	*	*
4	DIV r4 r3 r6	MULT r3 r1 r5	SUB r2 r3 r4	ADD r1 r2 r3	*
5	DIV r4 r3 r6	MULT r3 r1 r5	*	SUB r2 r3 r4	ADD r1 r2 r3
6	LW r5 r4	DIV r4 r3 r6	MULT r3 r1 r5	*	SUB r2 r3 r4
7	SW r5 r7	LW r5 r4	DIV r4 r3 r6	MULT r3 r1 r5	*
8	BNEZ r7 r8	SW r5 r7	LW r5 r4	DIV r4 r3 r6	MULT r3 r1 r5
9	*	BNEZ r7 r8	SW r5 r7	LW r5 r4	DIV r4 r3 r6
10	*	*	BNEZ r7 r8	SW r5 r7	LW r5 r4
11	*	*	*	BNEZ r7 r8	SW r5 r7
12	*	*	*	*	BNEZ r7 r8
13	*	*	*	*	*

Completed in 12 cycles.

Starting...

Forwarding is enabled with window size set to 2.

Loading application...instruction.txt

Read file completed!!

Printing Application:

```
ADD r1 r2 r3
SUB r2 r3 r4
MULT r3 r1 r5
DIV r4 r3 r6
LW r5 r4
SW r5 r7
BNEZ r7 r8
```

Initializing pipeline...

Cycle	IF	ID	EXEC	MEM	WB
0	*	*	*	*	*
1	ADD r1 r2 r3	*	*	*	*
2	SUB r2 r3 r4	ADD r1 r2 r3	*	*	*
3	MULT r3 r1 r5	SUB r2 r3 r4	ADD r1 r2 r3	*	*
4	DIV r4 r3 r6	MULT r3 r1 r5	SUB r2 r3 r4	ADD r1 r2 r3	*
5	LW r5 r4	DIV r4 r3 r6	MULT r3 r1 r5	SUB r2 r3 r4	ADD r1 r2 r3
6	SW r5 r7	LW r5 r4	DIV r4 r3 r6	MULT r3 r1 r5	SUB r2 r3 r4
7	BNEZ r7 r8	SW r5 r7	LW r5 r4	DIV r4 r3 r6	MULT r3 r1 r5
8	*	BNEZ r7 r8	SW r5 r7	LW r5 r4	DIV r4 r3 r6
9	*	*	BNEZ r7 r8	SW r5 r7	LW r5 r4
10	*	*	*	BNEZ r7 r8	SW r5 r7
11	*	*	*	*	BNEZ r7 r8
12	*	*	*	*	*

Completed in 11 cycles.

printout for the 3 forwarding settings on instruction2.txt

Starting...

Forwarding is disabled.

Loading application...instruction2.txt

Read file completed!!

Printing Application:

```
ADD r1 r2 r3
SW r1 r2
LW r7 r2
ADD r5 r7 r1
LW r8 r2
SW r7 r8
ADD r8 r8 r2
LW r9 r8
SW r9 r8
```

Initializing pipeline...

Cycle	IF	ID	EXEC	MEM	WB
0	*	*	*	*	*
1	ADD r1 r2 r3	*	*	*	*
2	SW r1 r2	ADD r1 r2 r3	*	*	*
3	LW r7 r2	SW r1 r2	ADD r1 r2 r3	*	*
4	LW r7 r2	SW r1 r2	*	ADD r1 r2 r3	*
5	LW r7 r2	SW r1 r2	*	*	ADD r1 r2 r3
6	ADD r5 r7 r1	LW r7 r2	SW r1 r2	*	*
7	LW r8 r2	ADD r5 r7 r1	LW r7 r2	SW r1 r2	*
8	LW r8 r2	ADD r5 r7 r1	*	LW r7 r2	SW r1 r2
9	LW r8 r2	ADD r5 r7 r1	*	*	LW r7 r2
10	SW r7 r8	LW r8 r2	ADD r5 r7 r1	*	*
11	ADD r8 r8 r2	SW r7 r8	LW r8 r2	ADD r5 r7 r1	*
12	ADD r8 r8 r2	SW r7 r8	*	LW r8 r2	ADD r5 r7 r1
13	ADD r8 r8 r2	SW r7 r8	*	*	LW r8 r2
14	LW r9 r8	ADD r8 r8 r2	SW r7 r8	*	*
15	SW r9 r8	LW r9 r8	ADD r8 r8 r2	SW r7 r8	*
16	SW r9 r8	LW r9 r8	*	ADD r8 r8 r2	SW r7 r8
17	SW r9 r8	LW r9 r8	*	*	ADD r8 r8 r2
18	*	SW r9 r8	LW r9 r8	*	*
19	*	SW r9 r8	*	LW r9 r8	*
20	*	SW r9 r8	*	*	LW r9 r8
21	*	*	SW r9 r8	*	*
22	*	*	*	SW r9 r8	*
23	*	*	*	*	SW r9 r8
24	*	*	*	*	*

Completed in 23 cycles.

Starting...

Forwarding is enabled with window size set to 1.

Loading application...instruction2.txt

Read file completed!!

Printing Application:

ADD r1 r2 r3

SW r1 r2

LW r7 r2

ADD r5 r7 r1

LW r8 r2

SW r7 r8

ADD r8 r8 r2

LW r9 r8

SW r9 r8

Initializing pipeline...

Cycle	IF	ID	EXEC	MEM	WB
0	*	*	*	*	*
1	ADD r1 r2 r3	*	*	*	*
2	SW r1 r2	ADD r1 r2 r3	*	*	*
3	LW r7 r2	SW r1 r2	ADD r1 r2 r3	*	*
4	ADD r5 r7 r1	LW r7 r2	SW r1 r2	ADD r1 r2 r3	*
5	LW r8 r2	ADD r5 r7 r1	LW r7 r2	SW r1 r2	ADD r1 r2 r3
6	LW r8 r2	ADD r5 r7 r1	*	LW r7 r2	SW r1 r2
7	LW r8 r2	ADD r5 r7 r1	*	*	LW r7 r2
8	SW r7 r8	LW r8 r2	ADD r5 r7 r1	*	*
9	ADD r8 r8 r2	SW r7 r8	LW r8 r2	ADD r5 r7 r1	*
10	ADD r8 r8 r2	SW r7 r8	*	LW r8 r2	ADD r5 r7 r1
11	ADD r8 r8 r2	SW r7 r8	*	*	LW r8 r2
12	LW r9 r8	ADD r8 r8 r2	SW r7 r8	*	*
13	SW r9 r8	LW r9 r8	ADD r8 r8 r2	SW r7 r8	*
14	*	SW r9 r8	LW r9 r8	ADD r8 r8 r2	SW r7 r8
15	*	SW r9 r8	*	LW r9 r8	ADD r8 r8 r2
16	*	SW r9 r8	*	*	LW r9 r8
17	*	*	SW r9 r8	*	*
18	*	*	*	SW r9 r8	*
19	*	*	*	*	SW r9 r8
20	*	*	*	*	*

Completed in 19 cycles.

Starting...

Forwarding is enabled with window size set to 2.

Loading application...instruction2.txt

Read file completed!!

Printing Application:

ADD r1 r2 r3

SW r1 r2

LW r7 r2

ADD r5 r7 r1

LW r8 r2

SW r7 r8

ADD r8 r8 r2

LW r9 r8

SW r9 r8

Initializing pipeline...

Cycle	IF	ID	EXEC	MEM	WB
0	*	*	*	*	*
1	ADD r1 r2 r3	*	*	*	*
2	SW r1 r2	ADD r1 r2 r3	*	*	*
3	LW r7 r2	SW r1 r2	ADD r1 r2 r3	*	*
4	ADD r5 r7 r1	LW r7 r2	SW r1 r2	ADD r1 r2 r3	*
5	LW r8 r2	ADD r5 r7 r1	LW r7 r2	SW r1 r2	ADD r1 r2 r3
6	LW r8 r2	ADD r5 r7 r1	*	LW r7 r2	SW r1 r2
7	SW r7 r8	LW r8 r2	ADD r5 r7 r1	*	LW r7 r2
8	ADD r8 r8 r2	SW r7 r8	LW r8 r2	ADD r5 r7 r1	*
9	ADD r8 r8 r2	SW r7 r8	*	LW r8 r2	ADD r5 r7 r1
10	LW r9 r8	ADD r8 r8 r2	SW r7 r8	*	LW r8 r2
11	SW r9 r8	LW r9 r8	ADD r8 r8 r2	SW r7 r8	*
12	*	SW r9 r8	LW r9 r8	ADD r8 r8 r2	SW r7 r8
13	*	*	SW r9 r8	LW r9 r8	ADD r8 r8 r2
14	*	*	*	SW r9 r8	LW r9 r8

```

15      *          *          *          *          *          SW r9 r8
16      *          *          *          *          *          *
Completed in 15 cycles.

```

printout for the 3 forwarding settings on instruction3.txt

Starting...

Forwarding is disabled.

Loading application...instruction3.txt

Read file completed!!

Printing Application:

ADD r1 r2 r3

SUB r2 r3 r1

ADD r4 r3 r1

SUB r3 r1 r5

LW r6 r3

SW r6 r4

Initializing pipeline...

Cycle	IF	ID	EXEC	MEM	WB
0	*	*	*	*	*
1	ADD r1 r2 r3	*	*	*	*
2	SUB r2 r3 r1	ADD r1 r2 r3	*	*	*
3	ADD r4 r3 r1	SUB r2 r3 r1	ADD r1 r2 r3	*	*
4	ADD r4 r3 r1	SUB r2 r3 r1	*	ADD r1 r2 r3	*
5	ADD r4 r3 r1	SUB r2 r3 r1	*	*	ADD r1 r2 r3
6	SUB r3 r1 r5	ADD r4 r3 r1	SUB r2 r3 r1	*	*
7	LW r6 r3	SUB r3 r1 r5	ADD r4 r3 r1	SUB r2 r3 r1	*
8	SW r6 r4	LW r6 r3	SUB r3 r1 r5	ADD r4 r3 r1	SUB r2 r3 r1
9	SW r6 r4	LW r6 r3	*	SUB r3 r1 r5	ADD r4 r3 r1
10	SW r6 r4	LW r6 r3	*	*	SUB r3 r1 r5
11	*	SW r6 r4	LW r6 r3	*	*
12	*	SW r6 r4	*	LW r6 r3	*
13	*	SW r6 r4	*	*	LW r6 r3
14	*	*	SW r6 r4	*	*
15	*	*	*	SW r6 r4	*
16	*	*	*	*	SW r6 r4
17	*	*	*	*	*

Completed in 16 cycles.

Starting...

Forwarding is enabled with window size set to 1.

Loading application...instruction3.txt

Read file completed!!

Printing Application:

ADD r1 r2 r3

SUB r2 r3 r1

OR r4 r3 r1

AND r3 r1 r5

LW r6 r3

SW r6 r4

Initializing pipeline...

Cycle	IF	ID	EXEC	MEM	WB
0	*	*	*	*	*
1	ADD r1 r2 r3	*	*	*	*
2	SUB r2 r3 r1	ADD r1 r2 r3	*	*	*
3	ADD r4 r3 r1	SUB r2 r3 r1	ADD r1 r2 r3	*	*
4	SUB r3 r1 r5	ADD r4 r3 r1	SUB r2 r3 r1	ADD r1 r2 r3	*
5	SUB r3 r1 r5	ADD r4 r3 r1	*	SUB r2 r3 r1	ADD r1 r2 r3
6	LW r6 r3	SUB r3 r1 r5	ADD r4 r3 r1	*	SUB r2 r3 r1
7	SW r6 r4	LW r6 r3	SUB r3 r1 r5	ADD r4 r3 r1	*
8	*	SW r6 r4	LW r6 r3	SUB r3 r1 r5	ADD r4 r3 r1
9	*	*	SW r6 r4	LW r6 r3	SUB r3 r1 r5
10	*	*	*	SW r6 r4	LW r6 r3
11	*	*	*	*	SW r6 r4
12	*	*	*	*	*

Completed in 11 cycles.

Starting...

Forwarding is enabled with window size set to 2.

Loading application...instruction3.txt

Read file completed!!

Printing Application:

ADD r1 r2 r3

SUB r2 r3 r1

OR r4 r3 r1

AND r3 r1 r5

LW r6 r3

SW r6 r4

Initializing pipeline...

Cycle	IF	ID	EXEC	MEM	WB
0	*	*	*	*	*
1	ADD r1 r2 r3	*	*	*	*
2	SUB r2 r3 r1	ADD r1 r2 r3	*	*	*
3	ADD r4 r3 r1	SUB r2 r3 r1	ADD r1 r2 r3	*	*
4	SUB r3 r1 r5	ADD r4 r3 r1	SUB r2 r3 r1	ADD r1 r2 r3	*
5	LW r6 r3	SUB r3 r1 r5	ADD r4 r3 r1	SUB r2 r3 r1	ADD r1 r2 r3
6	SW r6 r4	LW r6 r3	SUB r3 r1 r5	ADD r4 r3 r1	SUB r2 r3 r1
7	*	SW r6 r4	LW r6 r3	SUB r3 r1 r5	ADD r4 r3 r1
8	*	*	SW r6 r4	LW r6 r3	SUB r3 r1 r5
9	*	*	*	SW r6 r4	LW r6 r3
10	*	*	*	*	SW r6 r4
11	*	*	*	*	*

Completed in 10 cycles.