

Y86 PJ Report

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总览

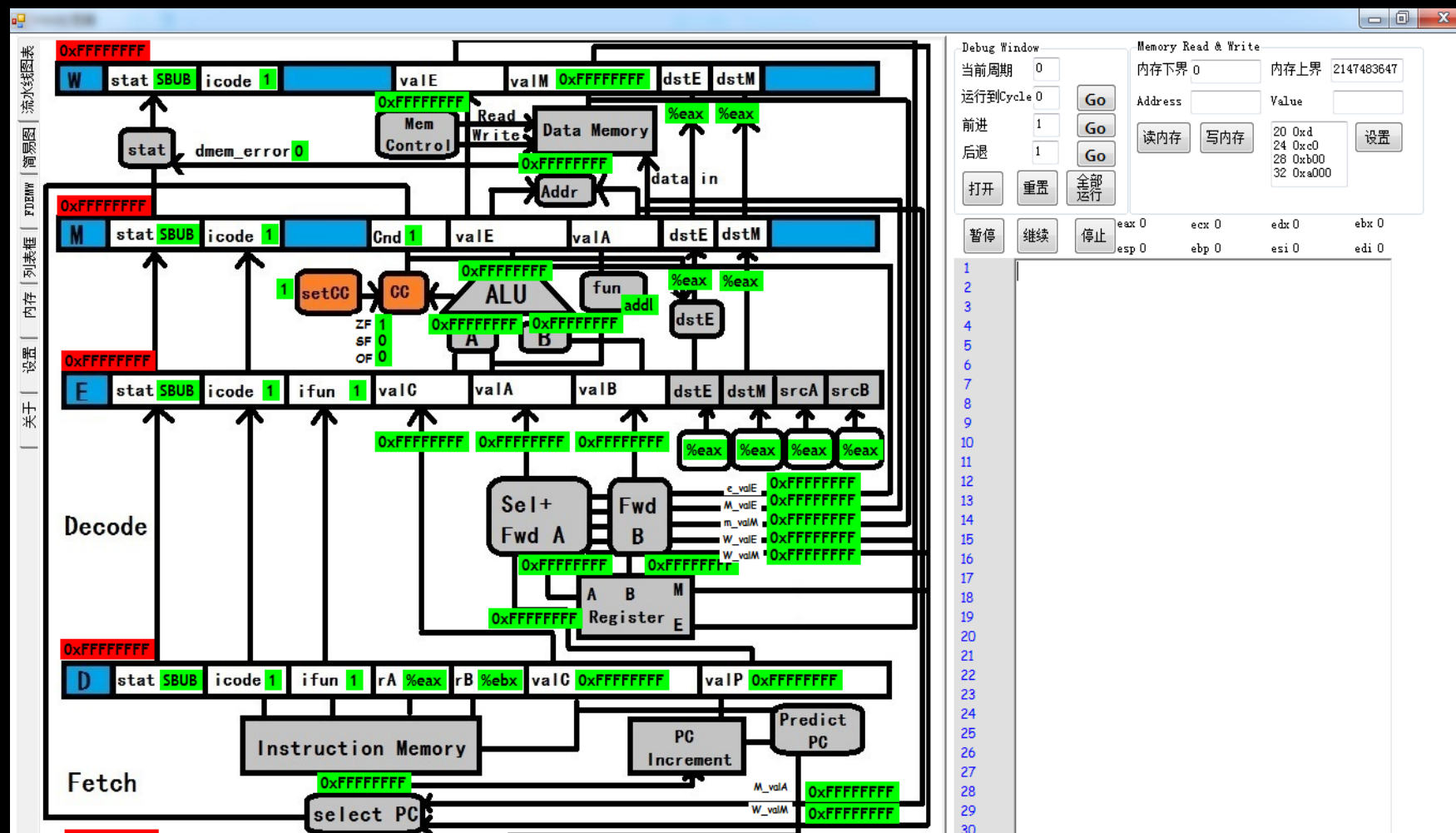
Y86处理器 帮助

编译器

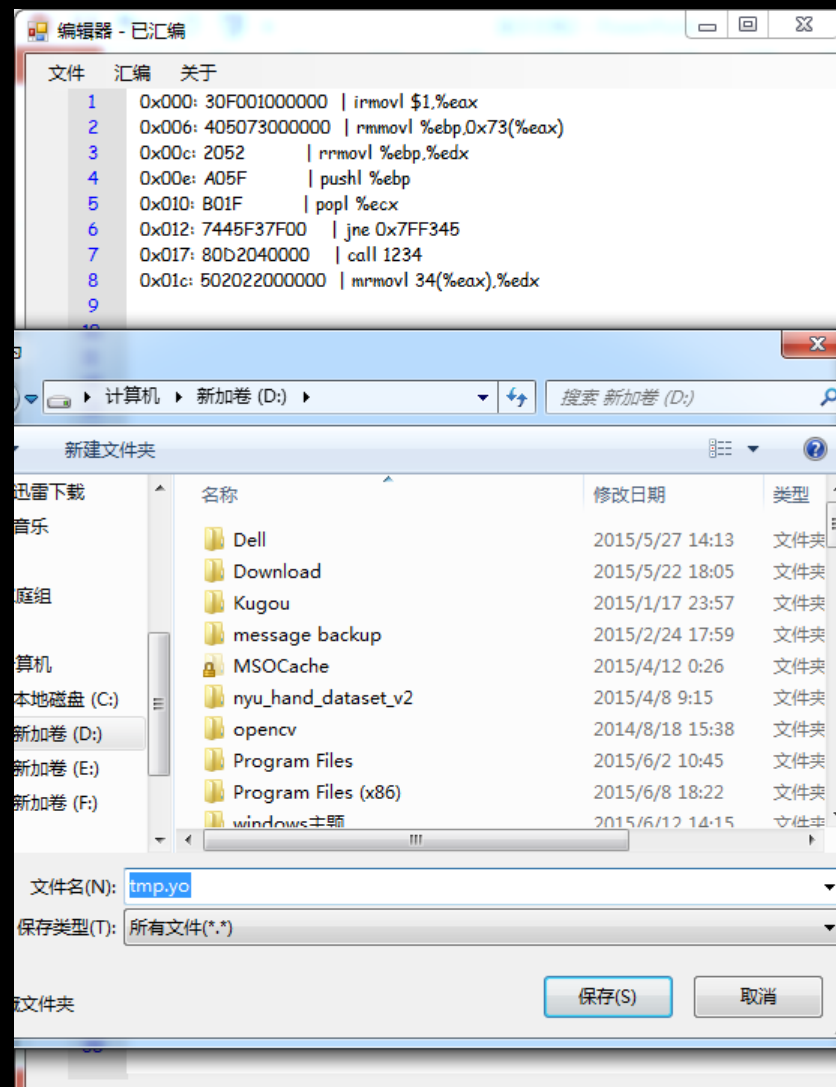
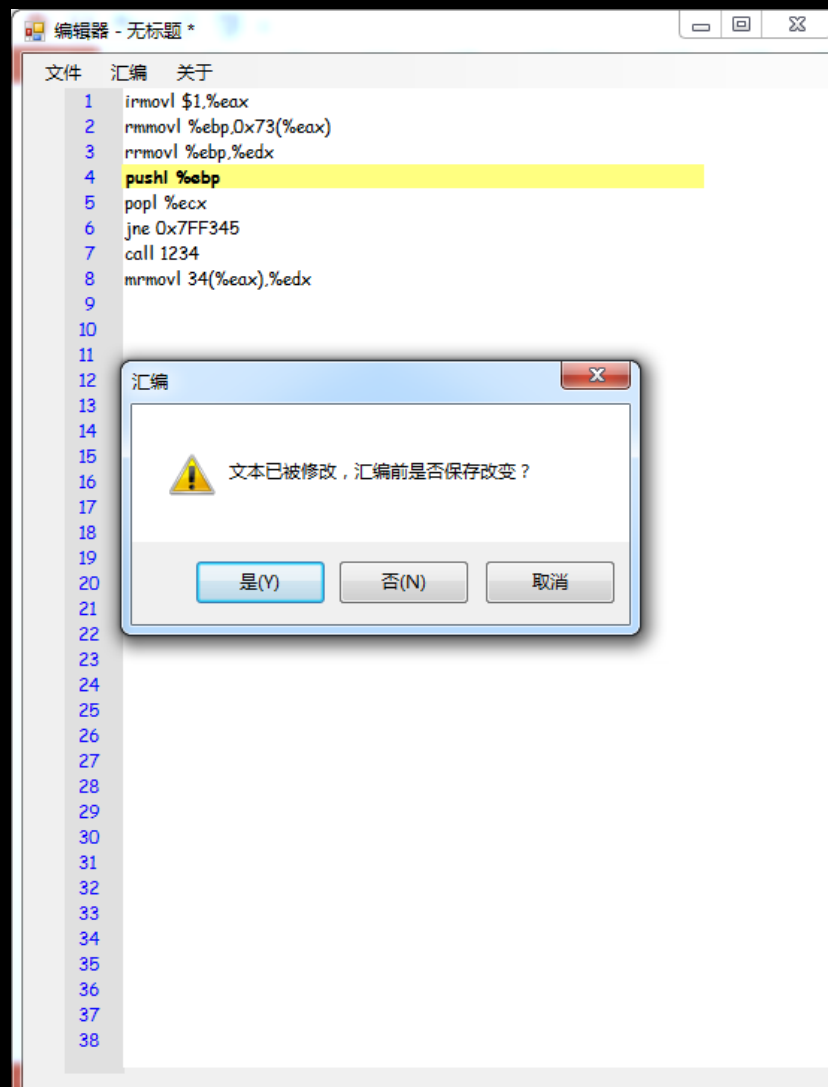
处理器

The screenshot displays the Y86 processor simulator interface. On the left, there are two buttons labeled '编译器' (Compiler) and '处理器' (Processor). The main window is titled 'Y86处理器 帮助' and contains several sub-windows. The top-left window shows a list of instructions and their corresponding assembly code. The top-right window shows a detailed diagram of the processor architecture, including the instruction memory, data memory, and various registers and control units. The bottom-left window shows a performance graph with a green area representing the execution time of instructions. The bottom-right window shows a list of instructions and their corresponding assembly code. The bottom status bar shows the system clock at 10:20 on 2015/6/25.

总览

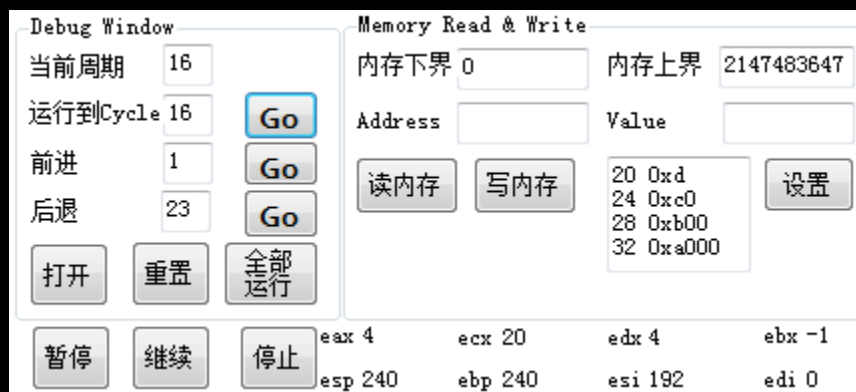


指令编码



处理器

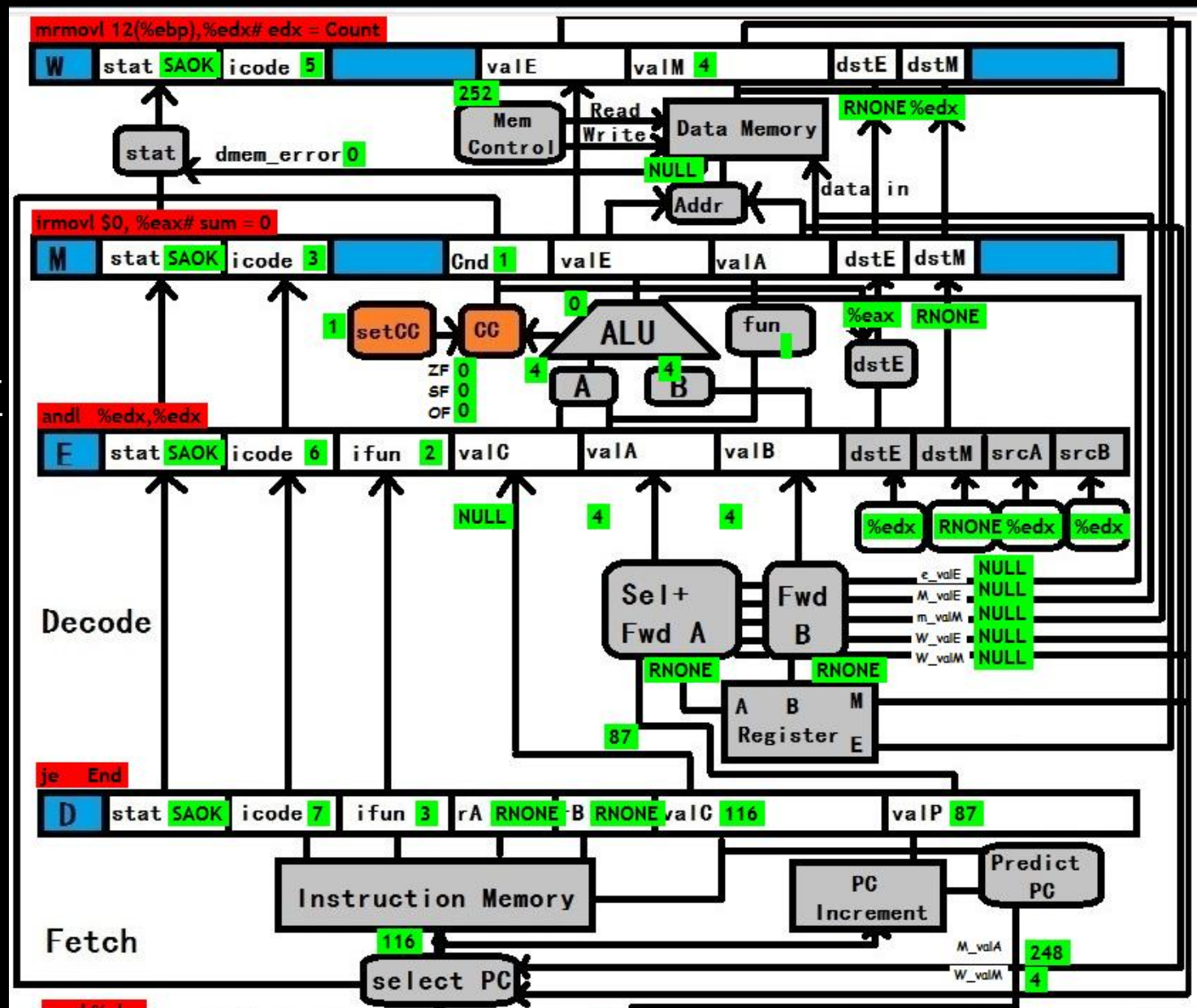
- 功能：
 - 全部运行
 - 运行到某一周期、前进后退若干周期
 - 设置多个断点，当处于F阶段的指令 in 断点集合 break



```
1  init:  irmovl Stack, %esp      # Set up Stack pointer
2         irmovl Stack, %ebp      # Set up base pointer
3         jmp Main                # Execute main program
4  Main:  irmovl $4, %eax
5         pushl %eax              # Push 4
6         irmovl array, %edx
7         pushl %edx              # Push array
8         call Sum                # Sum(array, 4)
9         halt
10 Sum:   pushl %ebp
11         rrmovl %esp, %ebp
12         mrmovl 8(%ebp), %ecx     # ecx = Start
13         mrmovl 12(%ebp), %edx    # edx = Count
14         irmovl $0, %eax          # sum = 0
15         andl %edx, %edx
16         je End
17 Loop:  mrmovl (%ecx), %esi       # get *Start
18 W      addl %esi, %eax           # add to sum
19 M      irmovl $4, %ebx          #
20 E      addl %ebx, %ecx           # Start++
21 D      irmovl $-1, %ebx         #
22 F      addl %ebx, %edx           # Count--
23         jne Loop               # Stop when 0
24         popl %ebp
25         ret
26
27
28
29
30
```


处理器

- 显示流水线运行过程
- 显示寄存器和各状态变量值
- 显示任意周期内状态变量的值
- 显示内存值和 栈状态



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转到

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保存到文件

状态变量	十六进制值	十进制值
Fetch		
F_predPC	0x00000067	103
F_PC	0x00000067	103
F_icode	0x3	3
F_ifun	0x0	0
F_valC	0xffffffff	-1
F_valP	0x0000006d	109
imem_error	false	false
F_rA	0xf	15
F_rB	0x3	3
Decode		
D_icode	0x6	6
D_ifun	0x6	6
D_rA	0x3	3
D_rB	0x1	1
D_valC	NULL	NULL
D_valP	0x00000067	103
d_valA	0x00000004	4
d_valB	0x00000014	20
d_srcA	0x3	3
d_srcB	0x1	1
d_dstE	0x1	1
d_dstM	0xf	15
Execute		
E_icode	0x3	3
E_ifun	0x0	0
E_valC	0x00000004	4
E_valA	0x0000000d	13
E_dstE	0x3	3
e_dstE	0x3	3
E_dstM	0xf	15
E_srcA	0xf	15
E_srcB	0xf	15
e_Cnd	true	true
e_Cnd	0x00000004	4

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Write

Instruction	mrmovl 12(%ebp), %edx			#	icode	5
Stat	valE	valM	dstE	dstM		
SAOK	252	4	RNONE	%edx		

Memory

Instruction	irmovl \$0, %eax			#	icode	3	M_Cnd	1
Stat	valA	valE	dstE	dstM	valM	R/W	Memory Address	
SAOK	248	0	%eax	RNONE	NULL	Read	NULL	

Execute

Instruction	andl %edx, %edx			icode	6	ifun	2	e_Cnd	1
Stat	valA	valB	valC	dstE	dstM	srcA	srcB		
SAOK	4	4	NULL	%edx	RNONE	%edx	%edx		

ALU

aluA	4
aluB	4
=	4

Decode

Instruction	je End			icode	7	ifun	3
Stat	rA	rB	valC	valP			
SAOK	RNONE	RNONE	116	87			

Fetch

predPC	116	Instruction	
realPC	116	popl %ebp	

Condition Code		Register	
ZF	0	%eax	4
SF	0	%ecx	20
OF	0	%edx	4
setCC	1	%ebx	-1
		%esp	240
		%ebp	240
		%esi	192
		%edi	0

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十六进制内存地址	十进制内存地址	十六进制值	十进制值
0x00000058	88	0x00000000	0
0x0000005c	92	0x00000000	0
0x00000060	96	0x00000000	0
0x00000064	100	0x00000000	0
0x00000068	104	0x00000000	0
0x0000006c	108	0x00000000	0
0x00000070	112	0x00000000	0
0x00000074	116	0x00000000	0
0x00000078	120	0x00000000	0
0x0000007c	124	0x00000000	0
0x00000080	128	0x00000000	0
0x00000084	132	0x00000000	0
0x00000088	136	0x00000000	0
0x0000008c	140	0x00000000	0
0x00000090	144	0x00000000	0
0x00000094	148	0x00000000	0
0x00000098	152	0x00000000	0
0x0000009c	156	0x00000000	0
0x000000a0	160	0x00000000	0
0x000000a4	164	0x00000000	0
0x000000a8	168	0x00000000	0
0x000000ac	172	0x00000000	0
0x000000b0	176	0x00000000	0
0x000000b4	180	0x00000000	0
0x000000b8	184	0x00000000	0
0x000000bc	188	0x00000000	0
0x000000c0	192	0x00000000	0
0x000000c4	196	0x00000000	0
0x000000c8	200	0x00000000	0
0x000000cc	204	0x00000000	0
0x000000d0	208	0x00000000	0
0x000000d4	212	0x00000000	0
0x000000d8	216	0x00000000	0
0x000000dc	220	0x00000000	0
0x000000e0	224	0x00000000	0
0x000000e4	228	0x00000000	0
0x000000e8	232	0x00000000	0
0x000000ec	236	0x00000000	0
0x000000f0	240	0x00000100	256
0x000000f4	244	0x00000039	57
0x000000f8	248	0x00000014	20

显示内存下界 16

显示内存上界 11111

显示

显示栈

设置运行速度

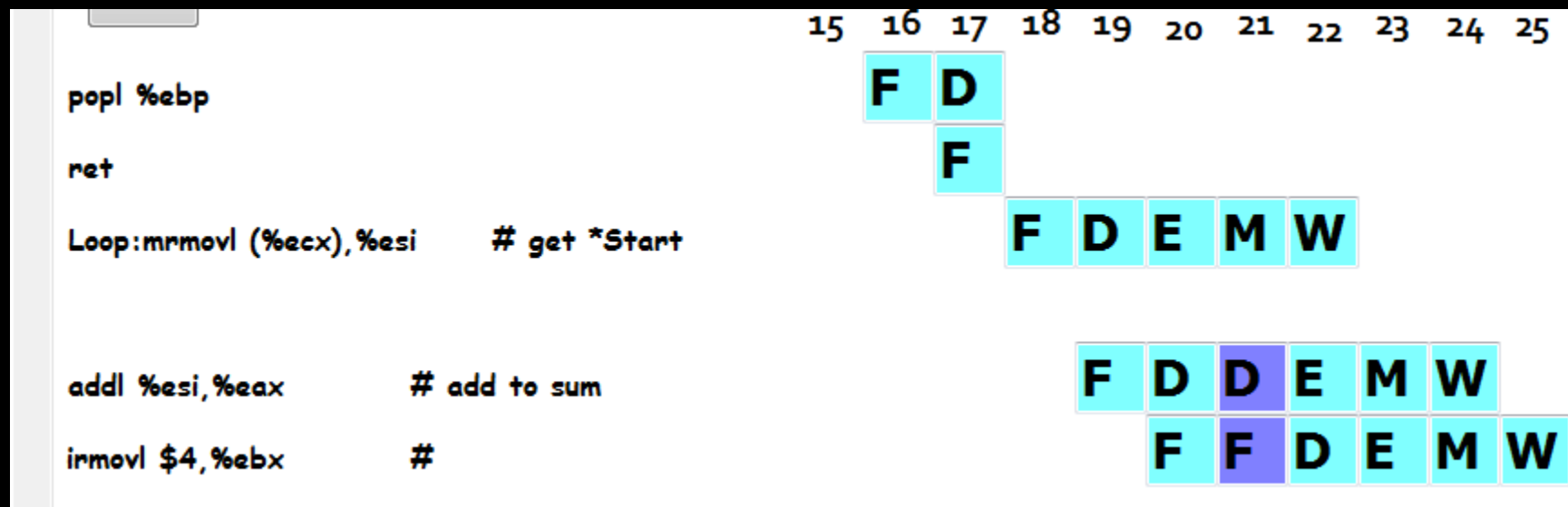
- 可以设置任意频率
- 可以任意暂停、继续、停止

☐ 使用计时器 ☒ 不使用计时器

CPU频率 HZ

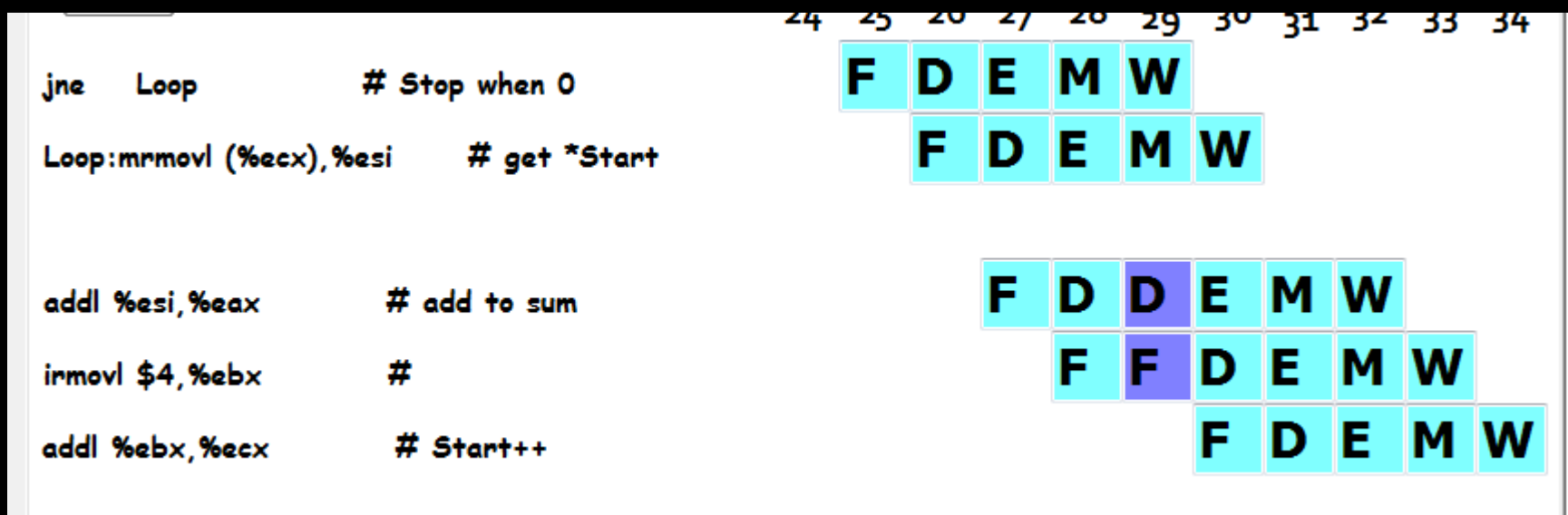
显示FDEMW

➤ 显示每条指令 各阶段在什么阶段执行



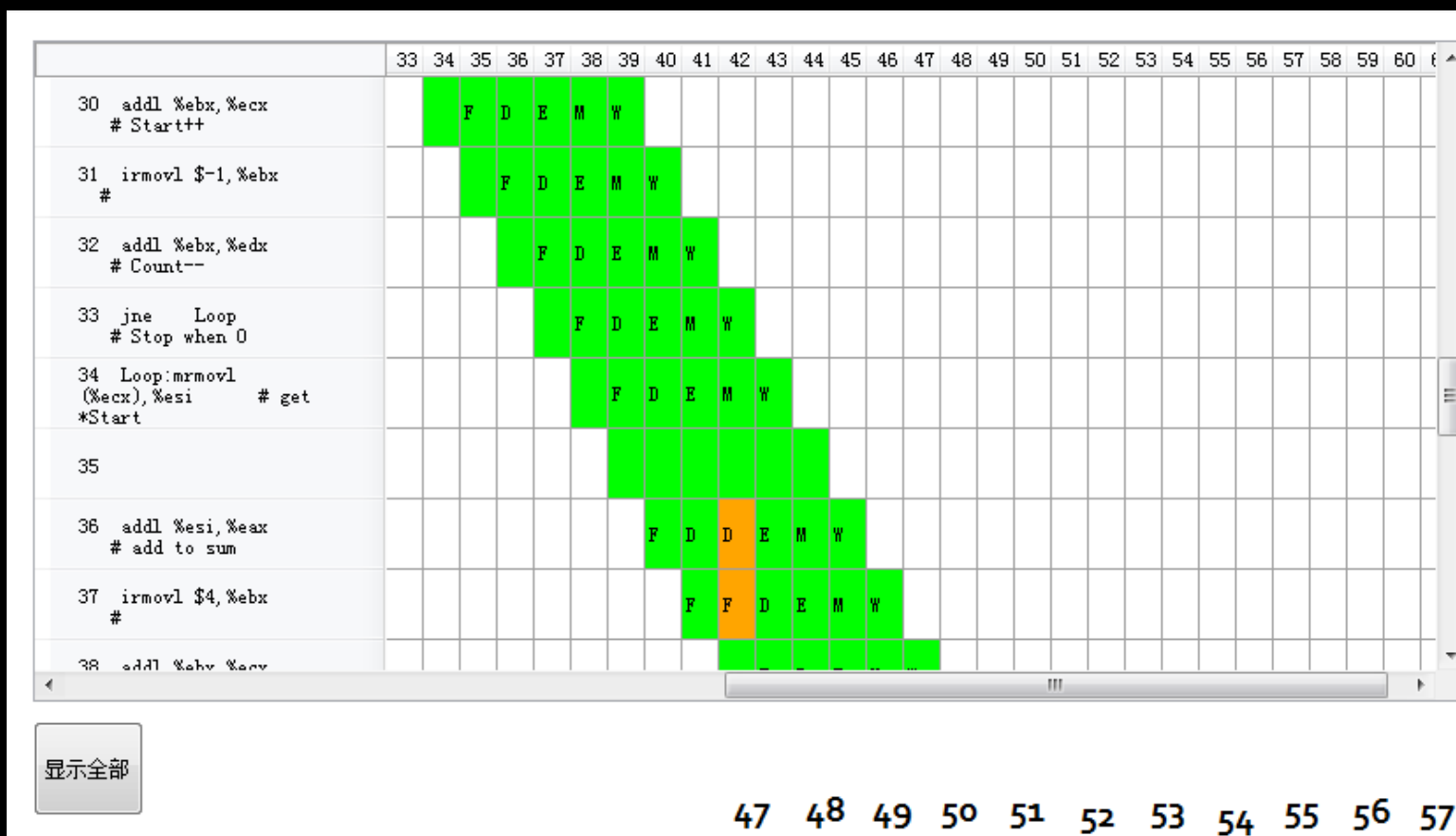
显示FDEM W

- 显示每条指令 各阶段在什么阶段执行



显示FDEMW

➤ 显示每条指令 各阶段在什么阶段执行



Thanks!

Q&A