Assembly

```
addi s0, s1, 12
addi x8, x9, 12
addi s2, t1, -14
addi x18,x6, -14
lw   t2, -6(s3)
lw   x7, -6(x19)
lb   s4, 0x1F(s4)
lb   x20,0x1F(x20)
slli s2, s7, 5
slli x18, x23, 5
srai t1, t2, 29
srai x6, x7, 29
```

Field Values

imm$_{11:0}$	rs1	funct3	rd	op
12	9	0	8	19
-14	6	0	18	19
-6	19	2	7	3
0x1F	20	0	20	3
5	23	1	18	19
(upper 7 bits = 32) 29	7	5	6	19
12 bits	5 bits	3 bits	5 bits	7 bits

Machine Code

imm$_{11:0}$	rs1	funct3	rd	op
0000 0000 1100	01001	000	01000	001 0011
1111 1111 0010	00110	000	10010	001 0011
1111 1111 1010	10011	010	00111	000 0011
0000 0001 1111	10100	000	10100	000 0011
0000 0000 0101	10111	001	10010	001 0011
0100 0001 1101	00111	101	00110	001 0011
12 bits	5 bits	3 bits	5 bits	7 bits

op	
001 0011	(0x00C48413)
001 0011	(0xFF230913)
000 0011	(0xFFA9A383)
000 0011	(0x01FA0A03)
001 0011	(0x005B9913)
001 0011	(0x41D3D313)

7 bits