# 표 1

Table for Problem 8-26

| Relation | Condition of Status Bits |
|---|---|
| $A > B$ | $C = 1$ and $Z = 0$ |
| $A \geq B$ | $C = 1$ |
| $A < B$ | $C = 0$ |
| $A \leq B$ | $C = 0$ or $Z = 1$ |
| $A = B$ | $Z = 1$ |
| $A \neq B$ | $Z = 0$ |

Unsigned 숫자를 비교

ow occurs.) Show that the relative magnitude of $A$
l from inspection of the status bits as specified bel
)

Table for Problem 8-27

| Relation | Condition of Status Bits |
|---|---|
| $A > B$ | $(S \oplus V) = 0$ and $Z = 0$ |
| $A \geq B$ | $(S \oplus V) = 0$ |
| $A < B$ | $(S \oplus V) = 1$ |
| $A \leq B$ | $(S \oplus V) = 1$ or $Z = 1$ |
| $A = B$ | $Z = 1$ |
| $A \neq B$ | $Z = 0$ |

signed 숫자를 비교

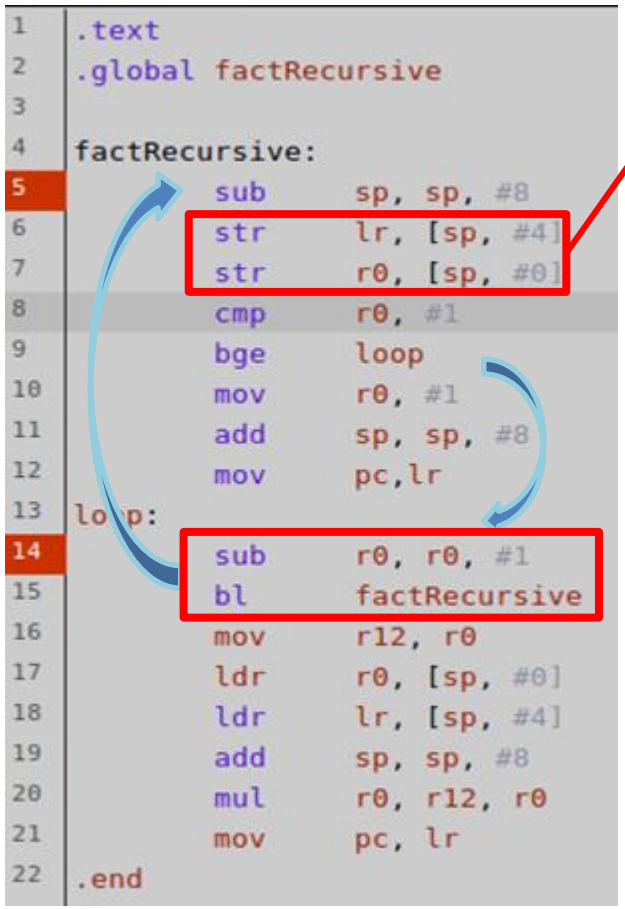
# 표 2

| 값 | 의미 | 값 | 의미 |
|---|---|---|---|
| 0 | EQ (EQual) | 8 | HI (unsigned HIgher) |
| 1 | NE (Not Equal) | 9 | LS (unsigned Lowe or Same) |
| 2 | HS (unsigned Higher or Same) | 10 | GE (signed Greater than or Equal) |
| 3 | LO (unsigned LOwer) | 11 | LT (signed Less Than) |
| 4 | MI (MInus, <0) | 12 | GT (signed Greater Than) |
| 5 | PL (PLus, >=0) | 13 | LE (signed Less Than or Equal) |
| 6 | VS (oVerflow Set, overflow) | 14 | AL (ALways) |
| 7 | VC (oVerflow Clear, no overflow) | 15 | NV (reserved) |

# 그림 1

```
1  #include <stdio.h>                                0x10610 pusht{r11, lr}
2                                                    0x10614 addtr11, sp, #4
3  extern int factorial(int num);                    0x10618 subtsp, sp, #8
4  extern int factRecursive(int num);
5
6  int main(void){                                   0x1061c movtr3, #6
                                                     0x10620 strtr3, [r11, #-12]
7                                                    0x10624 movtr3, #0
8          int facnum = 6;                           0x10628 strtr3, [r11, #-8]
9          int result = 0;                           0x1062c ldrtr1, [r11, #-8]
                                                     0x10630 ldrtr0, [pc, #40]t; 0x10660
10                                                   0x10634 blt0x16ee0 <printf>
11         printf("Before: %d\n",result);            0x10638 ldrtr0, [r11, #-12]
                                                     0x1063c blt0x105d0 <factRecursive>
12                                                   0x10640 strtr0, [r11, #-8]
13         result = factRecursive(facnum);           0x10644 ldrtr1, [r11, #-8]
                                                     0x10648 ldrtr0, [pc, #20]t; 0x10664
14                                                   0x1064c blt0x16ee0 <printf>
15         printf("After: %d\n",result);             0x10650 movtr3, #0
16
17         return 0;
```

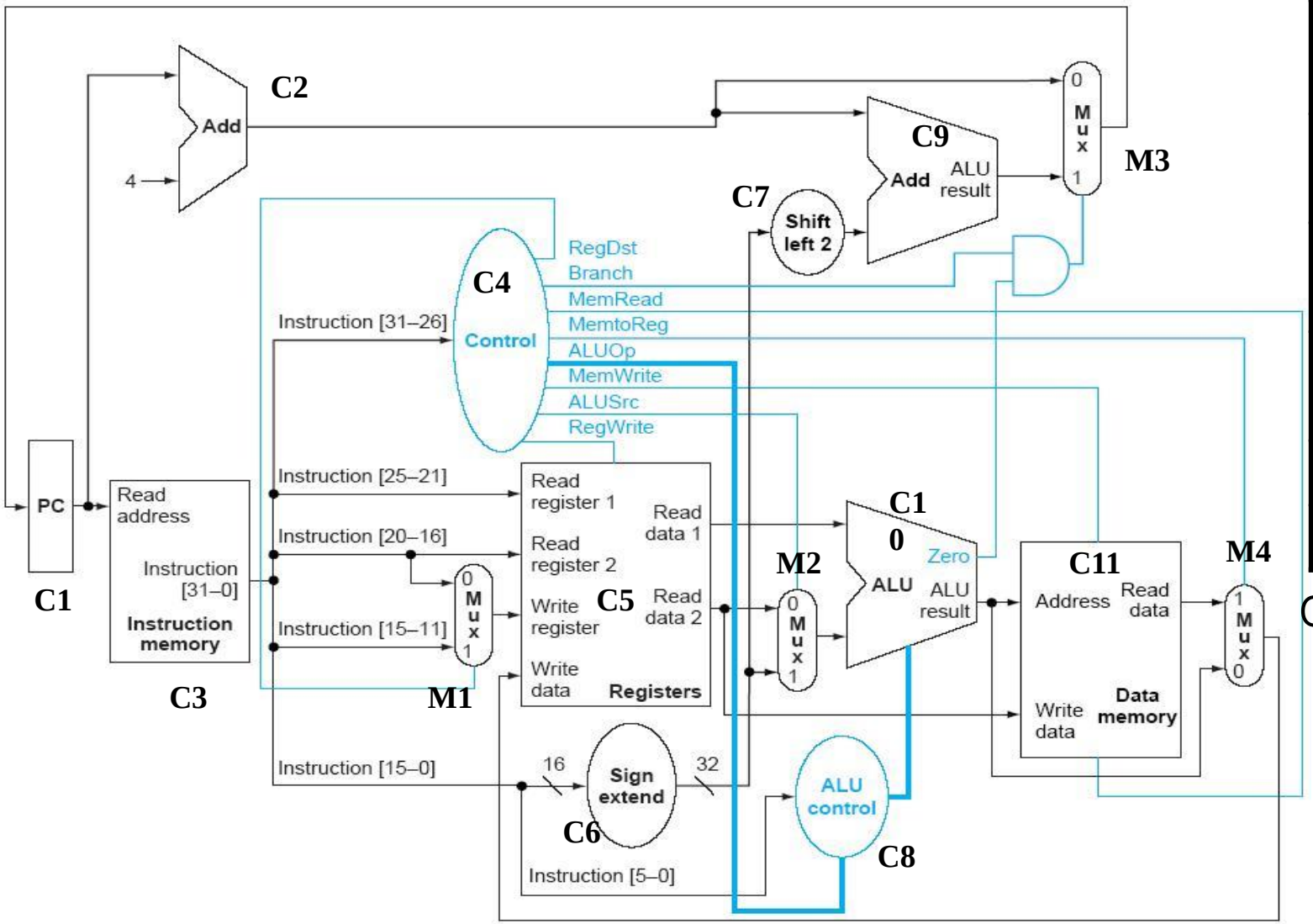
# 그림 2



```
1   .text
2   .global factRecursive
3
4   factRecursive:
5           sub     sp, sp, #8
6           str     lr, [sp, #4]
7           str     r0, [sp, #0]
8           cmp     r0, #1
9           bge     loop
10          mov     r0, #1
11          add     sp, sp, #8
12          mov     pc,lr
13  loop:
14          sub     r0, r0, #1
15          bl      factRecursive
16          mov     r12, r0
17          ldr     r0, [sp, #0]
18          ldr     lr, [sp, #4]
19          add     sp, sp, #8
20          mul     r0, r12, r0
21          mov     pc, lr
22  .end
```

| | | e0 | e1 | e2 | e3 |
|---|---|---|---|---|---|
| ⑭ | 0xf6ffefe0 | 00 | 00 | 00 | 00 |
| ⑬ | 0xf6ffefe4 | f8 | 05 | 01 | 00 |
| ⑫ | 0xf6ffefe8 | 01 | 00 | 00 | 00 |
| ⑪ | 0xf6ffefec | f8 | 05 | 01 | 00 |
| ⑩ | 0xf6ffeff0 | 02 | 00 | 00 | 00 |
| ⑨ | 0xf6ffeff4 | f8 | 05 | 01 | 00 |
| ⑧ | 0xf6ffeff8 | 03 | 00 | 00 | 00 |
| ⑦ | 0xf6ffeffc | f8 | 05 | 01 | 00 |
| ⑥ | 0xf6fff000 | 04 | 00 | 00 | 00 |
| ⑤ | 0xf6fff004 | f8 | 05 | 01 | 00 |
| ④ | 0xf6fff008 | 05 | 00 | 00 | 00 |
| ③ | 0xf6fff00c | f8 | 05 | 01 | 00 |
| ② | 0xf6fff010 | | | | |
| ① | 0xf6fff014 | | | | |

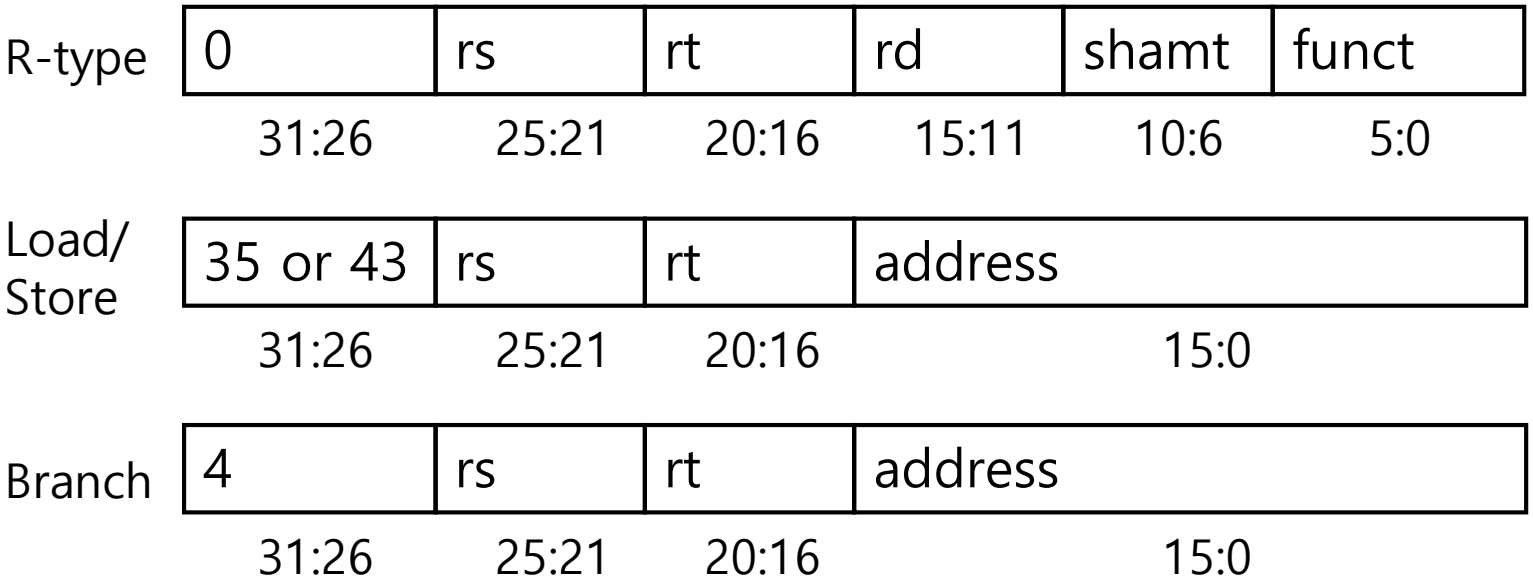
# 그림 3




| | |
|---|---|
| RegDst(M1) | |
| ALUSrc(M2) | |
| MemtoReg (M4) | |
| RegWrite | |
| MemRead | |
| MemWrite | |
| Branch | |
| ALUOp | |

Control signal 표

# 그림 4


R-type
0
rs
rt
rd
shamt
funct
31:26
25:21
20:16
15:11
10:6
5:0
Load/
Store
35 or 43
rs
rt
address
31:26
25:21
20:16
15:0
Branch
4
rs
rt
address
31:26
25:21
20:16
15:0